MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

CONTRACT DOCUMENTS

CONTRACT 2018.19

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
MILE 44.6

NOTICE TO CONTRACTORS

PROPOSAL

CONTRACT AGREEMENT

CONTRACT BOND

FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT

SPECIFICATIONS

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

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

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

TABLE OF CONTENTS

MAINE TURNPIKE AUTHORITY

NOTICE TO CONTRACTORS

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

CONTRACT 2018.19

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
MILE 44.6

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 October 16, 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 replacing the Cummings Road Bridge over the Maine Turnpike in the Town of Scarborough, Maine. The work includes phased construction of a new three span steel girder bridge, demolition of the existing bridge, ground improvements, construction of lightweight fill approach embankments, maintenance of traffic through the project site, 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 and Contract Documents may also be downloaded from a link on our website at http://www.maineturnpike.com/Projects-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/Projects-Planning/Construction-Contracts.aspx** . For Project specific information, fax all questions to Nate Carll, Purchasing Manager, at (207) 871-7739 or email ncarll@maineturnpike.com. Responses will not be prepared for questions received by telephone. Bidders shall not contact any other Authority staff or Consultants for clarification of Contract provisions, and the Authority will not be responsible for any interpretations so obtained.

All work shall be governed by the Specifications entitled "State of Maine, Department of Transportation, Standard Specifications, Revision of November 2014", "Standard Details, Revision of November 2014" and "Best Management Practices for Erosion and Sediment

Control", latest issue. Copies and recent updates to these publications can be downloaded at: http://www.maine.gov/mdot/contractors/publications/ .

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

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

A pre-bid conference will be held on October 2, 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 2018.19

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
MILE 44.6

MAINE TURNPIKE AUTHORITY

PROPOSAL

CONTRACT 2018.19

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
MILE 44.6

TO MAINE TURNPIKE AUTHORITY:

The work consists of replacing the Cummings Road Bridge over the Maine Turnpike in the Town of Scarborough, Maine. The work includes phased construction of a new three span steel girder bridge, demolition of the existing bridge, ground improvements, construction of lightweight fill approach embankments, maintenance of traffic through the project site, and all other work incidental thereto in accordance with the Plans and Specifications.

This Work will be done under a Contract known as Contract 2018.19 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 their 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. 2018.19
Bridge Replacement
Cummings Road Underpass

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
201.11	Clearing	Acre	2				
202.19	Removing Existing Bridge (Structural Steel = 112 Tons, Concrete = 580 CY)	Lump Sum	1				
202.202	Removing Pavement Surface	Square Yard	1,120				
203.20	Common Excavation	Cubic Yard	18,600				
203.24	Common Borrow	Cubic Yard	10,000				
203.25	Granular Borrow	Cubic Yard	1,500				
203.43	Geofoam Lightweight Fill	Cubic Yard	5,400				
203.45	Leveling Sand	Cubic Yard	2,300				
203.46	Sand Drainage Blanket	Cubic Yard	3,800				
206.082	Structural Earth Excavation - Major Structures, Plan Quantity	Cubic Yard	600				
206.10	Structural Earth Excavation - Piers	Cubic Yard	690				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
209.29	Prefabricated Vertical Drains	Linear Foot	183,000				
304.10	Aggregate Subbase Course - Gravel	Cubic Yard	4,050				
304.14	Aggregate Base Course - Type A	Cubic Yard	800				
403.207	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	Ton	950				
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	Ton	1,160				
403.2084	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals)	Ton	40				
403.212	Hot Mix Asphalt, 4.75 mm Nominal Maximum Size	Ton	30				
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Course)	Ton	570				
409.15	Bituminous Tack Coat, Applied	Gallon	590				
419.30	Sawing Bituminous Pavement	Linear Foot	990				
501.231	Dynamic Loading Test	Each	4				
501.54	Steel H-beam Piles 117 lb/ft, delivered	Linear Foot	11,300				
			CARRIED FORWARD:				

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
501.541	Steel H-beam Piles 117 lb/ft, in place	Linear Foot	10,600				
501.90	Pile Tips	Each	112				
501.91	Pile Splices	Each	336				
501.92	Pile Driving Equipment Mobilization	Lump Sum	1				
502.219	Structural Concrete, Abutments and Retaining Walls (635 CY)	Lump Sum	1				
502.239	Structural Concrete, Piers (593 CY)	Lump Sum	1				
502.26	Structural Concrete Roadway and Sidewalk Slab on Steel Bridges (737 CY)	Lump Sum	1				
502.264	Structural Concrete, Parapet (102 CY)	Lump Sum	1				
502.31	Structural Concrete Approach Slab (107 CY)	Lump Sum	1				
502.452	Structural Concrete Distribution Slab (350 CY)	Lump Sum	1				
503.14	Epoxy-Coated Reinforcing Steel, Fabricated and Delivered	Pound	479,900				
503.15	Epoxy-Coated Reinforcing Steel, Placing	Pound	479,900				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
503.17	Mechanical/Welded Splice	Each	330				
504.702	Structural steel fabricated and delivered, welded (1190000 LB)	Lump Sum	1				
504.71	Structural steel erection (1190000 LB)	Lump Sum	1				
505.08	Shear Connectors (8176 EA)	Lump Sum	1				
506.9104	Thermal Spray Coating (Shop Applied)	Lump Sum	1				
507.091	Aluminum Bridge Railing, 1 Bar (882 LF)	Lump Sum	1				
508.14	High Performance Waterproofing Membrane (2700 SY)	Lump Sum	1				
511.091	Temporary Earth Support Systems	Lump Sum	1				
513.09	Slope Protection - Portland Cement Concrete	Square Yard	400				
513.22	Crushed Stone Slope Protection	Square Yard	320				
514.06	Curing Box for Concrete Cylinders	Each	1				
515.202	Clear Protective Coating for Concrete Surfaces	Square Yard	1,800				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
520.21	Expansion Device - Gland Seal (150 LF)	Each	2				
523.52	Bearing Installation	Each	28				
523.5401	Laminated Elastomeric Bearings, Fixed	Each	7				
523.5402	Laminated Elastomeric Bearings, Expansion	Each	21				
524.40	Protective Shielding - Steel Girders	Square Yard	2,050				
526.304	Temporary Concrete Barrier, Anchored (440 LF)	Lump Sum	1				
526.306	Temporary Concrete Barrier, Type I - Supplied by Authority (2,860 LF)	Lump Sum	1				
527.341	Work Zone Crash Cushions - TL-3	Unit	2				
527.342	Work Zone Crash Cushions - TL-2	Unit	2				
603.169	15 Inch Culvert Pipe Option III	Linear Foot	20				
604.184	Rebuild Catch Basin to Grade - Type II	Each	1				
604.301	Special Catch Basin - Bioscape Vault Basin	Each	1				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
604.302	Special Catch Basin - Standard Offline Basin	Each	2				
605.10	6 inch Underdrain Outlet	Linear Foot	20				
606.13	31" W-Beam Guardrail - Mid-Way Splice (7' Steel Post, 8" Offset Blocks, Single Faced)	Linear Foot	970				
606.1306	31" W-Beam Guardrail - Mid-Way Splice Tangential Terminal (31" Height)	Each	2				
606.1351	Terminal End - Anchored End - 31" W-Beam Guardrail	Each	2				
606.1723	Bridge Transition Type III	Each	4				
606.178	Guardrail Beam	Linear Foot	820				
606.24	Guardrail Type 3d - Single Rail	Linear Foot	50				
606.278	Terminal End - Anchored End	Each	2				
606.352	Reflectorized Beam Guardrail Delineator	Each	7				
606.356	Underdrain Delineator Post	Each	2				
606.3561	Delineator Post - Remove and Reset	Each	9				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
606.3605	Guardrail - Remove, Modify and Reset Single Rail	Linear Foot	390				
606.3606	Guardrail - Remove, Modify and Reset Double Rail	Linear Foot	220				
606.47	Single Wood Post	Each	1				
606.48	Single Galvanized Steel Post	Each	96				
607.17	Chain Link Fence – 6 foot	Linear Foot	690				
607.23	Chain Link Fence Gate	Each	2				
607.32	Bracing Assembly Type I - Metal Posts	Each	6				
607.33	Bracing Assembly Type II - Metal Posts	Each	8				
609.11	Vertical Curb Type 1	Linear Foot	62				
609.12	Vertical Curb Type 1 - Circular	Linear Foot	43				
609.15	Slope Curb Type 1	Linear Foot	950				
609.234	Terminal Curb Type 1 - 4 foot	Each	1				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
609.2341	Terminal Curb Type 1 - 4 foot - Circular	Each	1				
609.31	Curb Type 3	Linear Foot	950				
609.38	Reset Curb Type 1	Linear Foot	80				
610.08	Plain Riprap	Cubic Yard	250				
610.181	Temporary Stone Check Dam	Cubic Yard	2				
613.319	Erosion Control Blanket	Square Yard	6,150				
615.07	Loam	Cubic Yard	1,200				
618.13	Seeding Method Number 1	Unit	9				
618.14	Seeding Method Number 2	Unit	87				
619.1201	Mulch, Plan Quantity	Unit	96				
619.1202	Temporary Mulch	Lump Sum	1				
620.58	Erosion Control Geotextile	Square Yard	140				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
620.70	HDPE Geomembrane	Square Yard	4,950				
626.33	30 Inch Foundation, 8 feet or less Foundation	Each	2				
627.712	White or Yellow Pavement Marking Line	Linear Foot	10,700				
627.73	Temporary 6 Inch Pavement Marking Tape	Linear Foot	1,300				
627.75	White or Yellow Pavement & Curb Marking	Square Foot	130				
627.77	Removing Existing Pavement Marking	Square Foot	9,600				
627.78	Temporary Pavement Marking Line, White or Yellow	Linear Foot	22,100				
627.812	Temporary Raised Pavement Markers	Each	2,600				
629.05	Hand Labor, Straight Time	Hour	60				
631.10	Air Compressor (including operator)	Hour	20				
631.11	Air Tool (including operator)	Hour	40				
631.12	All Purpose Excavator (including operator)	Hour	10				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
631.171	Truck - small (including operator)	Hour	35				
631.172	Truck - large (including operator)	Hour	35				
631.22	Front end loader (Including Operator)	Hour	35				
631.32	Culvert Cleaner (including Operator)	Hour	10				
631.36	Foreman	Hour	20				
639.18	Field Office, Type A	Each	1				
639.26	Instrumentation - Geotechnical	Lump Sum	1				
645.272	Regulatory, Warning and Bridge Number Signs, Type I - Supplied by Authority	Each	2				
645.292	Regulatory, Warning, Confirmation and Route Marker Assembly Signs Type II	Each	2				
645.503	Remove and Reset Bridge Mounted Guide Sign to Ground Mounted	Lump Sum	1				
645.504	Remove and Reset Mainline Sign	Lump Sum	1				
646.091	Settlement Platforms	Lump Sum	1				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
652.30	Flashing Arrow	Each	2				
652.312	Type III Barricades	Each	18				
652.33	Drum	Each	170				
652.34	Cone	Each	80				
652.35	Construction Signs	Square Foot	1,200				
652.361	Maintenance of Traffic Control Devices	Lump Sum	1				
652.38	Flaggers	Hour	260				
652.41	Portable-Changeable Message Sign	Each	3				
652.45	Truck Mounted Attenuator	Calendar Day	130				
652.452	Automated Trailer Mounted Speed Limit Sign	Each	2				
656.50	Baled Hay, in place	Each	25				
656.60	Temporary Berms	Linear Foot	2,100				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
656.62	Temporary Slope Drains	Linear Foot	200				
656.632	30 inch Temporary Silt Fence	Linear Foot	6,000				
659.10	Mobilization	Lump Sum	1				
TOTAL:							

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

_____

_____

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

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

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

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

_____ *(SEAL)*

_____ *(SEAL)*

Affix Corporate Seal
or Power of Attorney
Where Applicable

_____ *(SEAL)*

By: _____

Its: _____

Information below to be typed or printed where applicable:

INDIVIDUAL:

(Name)	(Address)

PARTNERSHIP - Name and Address of General Partners:

(Name)	(Address)
(Name)	(Address)
(Name)	(Address)
(Name)	(Address)

INCORPORATED COMPANY:

(President)	(Address)
(Vice-President)	(Address)
(Secretary)	(Address)
(Treasurer)	(Address)

MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

YORK TO AUGUSTA

CONTRACT AGREEMENT

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

_____

herein termed the "Contractor":

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

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

_____

_____

SECOND: The Contractor for and in consideration of certain payments to be made as hereafter specified, hereby covenants and agrees to perform and execute all of the provisions of this Contract and of all documents and parts attached hereto and made a part thereof, and at their 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 their 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 their 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 their 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)*

_____ _____ *(SEAL)*

_____ _____ *(SEAL)*

SURETY

_____ _____ *(SEAL)*

_____ _____ *(SEAL)*

_____ _____ *(SEAL)*

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

FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT

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

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

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

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

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

_____
(Contractor)

By: _____

Title: _____

State of MAINE

County of _____

I, _____, hereby certify on behalf of _____
(Company Officer) *(Company Name)*

its _____, being first duly sworn and stated that the foregoing representations are
(Title)

are true and correct upon their own knowledge and that the foregoing is their 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 their free act and deed.

(SEAL)

_____
Notary Public

My Commission Expires: _____

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART I – SUPPLEMENTAL SPECIFICATIONS

(Rev. November 10, 2016)

Supplemental Specifications are available on the Maine Turnpike Authority website

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART II – SPECIAL PROVISIONS

PART II - SPECIAL PROVISIONS

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART II - SPECIAL PROVISIONS

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

General Description of Work

The work consists of replacing the Cummings Road Bridge over the Maine Turnpike in the Town of Scarborough, Maine. The work includes phased construction of a new three span steel girder bridge, demolition of the existing bridge, ground improvements, construction of lightweight fill approach embankments, maintenance of traffic through the project site, 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 2018.19 – Bridge Replacement – Cummings Road Underpass Mile 44.6". The right is reserved by the Resident to make such minor corrections or alterations in the Plans as he deems necessary without change in the unit prices on the Schedule of Prices of the Proposal.

101.2 Definition

Holidays

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

Christmas 2018	12:00 p.m. preceding Monday noon to 6:00 a.m. the following Wednesday.
New Years 2019	6:00 p.m. preceding Monday to 6:00 a.m. the following Wednesday.
Independence Day 2019 (Fourth of July)	12:01 p.m. preceding Wednesday to 6:00 a.m. the following Friday.
Christmas 2019	12:00 p.m. preceding Tuesday noon to 6:00 a.m. the following Thursday.
New Years 2020	6:00 p.m. preceding Tuesday to 6:00 a.m. the following Thursday.

Independence Day 2020 (Fourth of July)	12:01 p.m. preceding Thursday to 6:00 a.m. the following Monday.
Christmas 2020	12:00 p.m. preceding Thursday noon to 6:00 a.m. the following Saturday.
New Years 2021	6:00 p.m. preceding Thursday to 6:00 a.m. the following Saturday.

103.4 Notice of Award

The following sentence is added:

The Maine Turnpike Authority Board is scheduled to consider the Contract Award on October 18, 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 --------2018.19-Bridge Replacement, Cummings Road Underpass, Mile 44.6

Location of Project --Scarborough, Cumberland County

2018 Fair Minimum Wage Rates
Highway & Earth Cumberland County

Occupation Title	Minimum Wage	Minimum Benefit	Total	Occupation Title	Minimum Wage	Minimum Benefit	Total
Asphalt Raker	$16.00	$0.44	$16.44	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	$22.30	$4.19	$26.49	Laborer (Includes Helper-Tender)	$14.50	$0.94	$15.44
Carpenter	$21.00	$2.36	$23.36	Laborer - Skilled	$17.00	$2.22	$19.22
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	$19.88	$3.74	$23.62
Crusher Plant Operator	$17.75	$2.39	$20.14	Mechanic- Maintenance	$21.00	$3.15	$24.15
Diver	$28.50	$1.48	$29.98	Painter	$17.00	$0.00	$17.00
Driller -Rock	$18.38	$2.60	$20.98	Paver Operator	$18.00	$1.57	$19.57
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	$21.54	$3.44	$24.98	Roller Operator - Pavement	$18.00	$2.07	$20.07
Fence Setter	$17.25	$1.72	$18.97	Screed/Wheelman	$22.88	$4.25	$27.13
Flagger	$12.50	$0.00	$12.50	Truck Driver - Light	$17.83	$3.74	$21.57
Grader/Scraper Operator	$21.33	$5.65	$26.98	Truck Driver - Medium	$18.00	$1.89	$19.89
Highway Worker/Guardrail Installer	$16.50	$0.79	$17.29	Truck Driver - Heavy	$16.50	$1.53	$18.03
Hot Top Plant Operator	$23.38	$5.55	$28.93	Truck Driver - Tractor Trailer	$19.00	$2.79	$21.79

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-150-2018**

A true copy

Filing Date: **September 17, 2018**

Attest: Scott R Cotnoir

Scott A. Cotnoir
Wage & Hour Director

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

BLS(Highway & Earth Cumberland)

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 --------2018.19-Bridge Replacement, Cummings Road Underpass, Mile 44.6

Location of Project --Scarborough, Cumberland County

2018 Fair Minimum Wage Rates
Heavy & Bridge Cumberland County

Occupation Title	Minimum Wage	Minimum Benefit	Total
Backhoe Loader Operator	$20.00	$2.16	$22.16
Boom Truck (Truck Crane)Operator	$21.66	$6.86	$28.52
Bricklayer	$24.00	$3.99	$27.99
Bulldozer Operator	$20.00	$4.06	$24.06
Carpenter	$24.31	$10.41	$34.72
Carpenter - Rough	$20.67	$5.49	$26.16
Cement Mason/Finisher	$17.00	$0.56	$17.56
Communication Equipment Installer	$21.50	$3.28	$24.78
Comm Transmission Erector Microwave & Cell	$19.00	$3.57	$22.57
Crane Operator =>15 Tons)	$28.00	$7.15	$35.15
Crusher Plant Operator	$17.75	$2.48	$20.23
Diver	$32.00	$0.00	$32.00
Driller -Rock	$18.38	$2.60	$20.98
Earth Auger Operator	$23.76	$6.31	$30.07
Electrician - Licensed	$28.83	$13.97	$42.80
Electrician Helper/Cable Puller (Licensed)	$26.00	$8.68	$34.68
Excavator Operator	$23.00	$3.68	$26.68
Fence Setter	$16.00	$1.17	$17.17
Flagger	$12.00	$0.00	$12.00
Grader/Scraper Operator	$21.33	$5.13	$26.46
HVAC (Heat-Vent-Air Conditioning)	$23.00	$3.05	$26.05
Ironworker – Ornamental	$22.85	$4.85	$27.70
Ironworker - Reinforcing	$26.20	$12.15	$38.35
Ironworker - Structural	$23.00	$6.26	$29.26
Laborer (Includes Helper-Tender	$16.00	$1.64	$17.64
Laborer - Skilled	$20.55	$3.62	$24.17
Line Erector-Power/Cable Splicer	$25.75	$7.59	$33.34
Loader Operator - Front-End	$19.75	$2.82	$22.57
Mechanic- Maintenance	$20.00	$5.72	$25.72
Mechanic- Refrigeration	$24.88	$4.76	$29.64
Millwright	$28.90	$22.50	$51.40
Painter	$22.00	$3.06	$25.06
Paver Operator	$20.00	$3.78	$23.78
Pile Driver Operator	$25.00	$11.13	$36.13
Pipe/Steam/Sprinkler Fitter	$22.50	$8.53	$31.03
Pipe Layer	$28.00	$12.54	$40.54
Pump Installer	$21.00	$3.73	$24.73
Reclaimer Operator	$18.50	$2.85	$21.35
Rigger	$20.00	$6.12	$26.12
Roller Operator - Earth	$15.88	$1.76	$17.64
Roller Operator - Pavement	$18.30	$1.64	$19.94
Truck Driver - Light	$18.15	$2.88	$21.03
Truck Driver - Medium	$17.75	$1.82	$19.57
Truck Driver - Heavy	$19.00	$3.17	$22.17
Truck Driver - Tractor Trailer	$21.50	$5.59	$27.09

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-051-2018**

A true copy

Filing Date: **September 17, 2018**

Attest: Scott R Cotnoir

Scott A. Cotnoir
Wage & Hour Director

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

BLS(Heavy & Bridge Cumberland)

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 their 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 their 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 their work accordingly.

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

AERIAL UTILITIES

Five utility services, identified below, are present within the project site and collectively utilize a single set of poles. The existing aerial cables extend over Cummings Road near the Payne Road intersection and extend northerly along the east side of Cummings Road; an existing residential service line crosses over Cummings Road near STA 77+05. The following aerial utilities are known to be present on this project, including contact information:

CENTRAL MAINE POWER (CMP)
160 Canco Road
Portland, ME 04103
ATTN: Jason Ward
(207) 828-2816
jason.ward@cmpco.com

CHARTER COMMUNICATIONS (SPECTRUM)
118 Johnson Road
Portland, ME 04102
ATTN: Chip Deane
(207) 415-5286
chip.deane@charter.com

CONSOLIDATED COMMUNICATIONS
5 Davis Farm Road, Floor 2
Portland, ME 04103
ATTN: Marty Pease
(207) 797-1119
martin.pease@consolidated.com

FIRSTLIGHT FIBER (OXFORD NETWORKS)
491 Lisbon Street
Lewiston, ME 04240
ATTN: Michael Ellingwood
(207) 333-3471
mellingwood@firstlight.net

MCI WORLD COMMUNICATIONS (VERIZON)
82B Northside Road PO Box 600
Charlton, MA 01507
ATTN: Tremain Fernandes
(617) 953-9575
tremain.k.fernandes@verizon.com

Relocation of the existing utilities has been coordinated cooperatively between the Authority, its engineer, and the respective utility companies to allow the Contractor to safely build the bridge and approaches. All utilities will relocate permanently on new poles west of the proposed bridge. The utility relocation work is anticipated to commence in the Fall of 2019. The bidding contractors are encouraged to review the site and relocation locations prior to bid.

The Contractor shall provide an initial layout (stakes/nails) of the new pole locations identified on the Plans. The Utility will then locate and place their own stakes, and minor alignment changes may be needed. Once staked, the poles shall be checked by the Contractor for any possible conflicts with required project features. The Contractor is then responsible for maintaining and/or replacing the pole location stakes/nails until the poles are set by the respective utilities. The Contractor shall employ or retain competent Engineering and/or surveying personnel to fulfill these responsibilities. The Contractor must notify the Authority of any errors or inconsistencies regarding the data and layout provided by the utilities.

Depending on the Contractor's selected equipment, access, schedule, and method of removing the existing bridge, the Contractor may be working next to, or under the existing wires prior to relocation. The Contractor shall be responsible for complying with M.R.S.A. Title35-A, Chapter 7-A Sections 751 -761 Overhead High-Voltage Line Safety Act. Prior to commencing any work that may come within ten (10) feet of any aerial electrical line; the Contractor shall notify the aerial utilities as per section 757 of the aforementioned act. The bidding contractors are encouraged to visit the site, prior to bid, to determine how to construct safely. Temporary utility adjustments are not anticipated. If temporary relocation becomes necessary, the Contractor shall notify the affected utilities. Any cost for temporary relocations shall be the responsibility of the Contractor. The Contractor shall not have any claims against the Authority if the existing lines become a construction issue. Sufficient time will need to be allowed prior to the construction for all required temporary relocation.

The Contractor shall not excavate around any pole, guy anchor, or street light to a depth that compromises the stability of the pole.

The following table provides an estimate of working days for relocation of each utility service:

Utility	Pole Set (Days)	Install New Lines (Nights)	Splice Fiber Optic Lines (Days)	Remove Old Lines (Nights)	Pole Removal (Days)
CMP	3	5	-	2	1
Charter	-	7	5	3	-
Consolidated	-	7	5	3	-
FirstLight	-	5	5	3	-
Verizon	-	5	10	5	-

The Contractor shall notify the above utility companies a minimum of 30 days prior to the need for utility relocation.

UNDERGROUND UTILITIES

The following underground utilities are known to be present on this project, including contact information:

PORTLAND WATER DISTRICT
225 Douglass Street
Portland, ME 04102
ATTN: Christian Rodriguez
(207) 774-5961 x3906
crodriguez@pwd.org

Portland Water District owns a 16-inch underground trunk water main within the project limits. This watermain crosses the Turnpike near STA 2210+10 and extends along the toe of slope of the northeast embankment of the Cummings Road approach roadway, approximately 5-ft below ground. The proposed work is not anticipated to impact the existing water main and relocation is not planned.

104.4.7 Cooperation With Other Contractors

This Subsection is amended by the addition of the following:

Adjacent contracts currently under construction or tentatively scheduled for the 2019 - 2021 construction seasons include:

- MTA Contract 2016.08 – Interchange 44 Barrier Toll Plaza ORT Conversion, MM44.3
- MTA Contract 2018.02 – Rand Road Intersection Improvements, MM 47.3
- MTA Contract 2018.13 – Guide Sign Modifications, Phase III Maine Turnpike Exits 32, 36, 42, 44 and 45. Mile 16.9 to 50.5.

- MTA Contract 2019.01 – Scarborough/South Portland/Portland Mainline Pavement Rehabilitation, MM 42 – 44.3 and Exit 44 NB Ramp Improvements
- MTA Contract 2019.08 – Scarborough/South Portland/Portland Median Safety Improvements, MM 43 – 49
- MTA Contract 2019.09 – MCRR Overpass Bridge Widening and Rehabilitation, MM 47.9
- MTA Contract 2019.13 – Exit 45 Interchange Reconstruction Pre-Load, MM 44.9
- MTA Contract 2019.16 – Stroudwater River Overpass Bridge Widening and Rehabilitation, MM 46.7
- MTA Contract 2020.XX – Exit 45 Interchange Reconstruction, MM 44.9
- MTA Contract 2020.XX – Saco/Scarborough Mainline Pavement Rehabilitation, MM 35.5 – 42.0
- MTA Contract 2020.XX – Mainline Widening and Median Safety Improvements, MM 44 – 49.3
    - Note: The Exit 45 Interchange Reconstruction project(s) (2019.13 and 2020.XX) will entail construction of a realigned southbound on-ramp that extends beneath the north span of the proposed bridge. Embankment construction and preload related to the Exit 45 interchange project may occur at the same time as the Cummings Road Bridge Replacement Project resulting in overlapping work zones. The Contractors shall be responsible for the cooperative scheduling and sequencing of their respective activities, and for providing reasonable access and accommodations for the proposed work activities.

The following Subsection is added:

105.2.4.2 Lead Paint

The Contractor shall presume that the existing Cummings Road bridge contains lead based paint. Paint samples were not taken on this structure, therefore a Lead Determination Report is not available. The Contractor shall institute every precaution when working with materials coated with lead based paints.

At the Contractor's option, the Contractor may have the bridge paint sampled and analyzed. Both the fascia girders and the interior girders shall be sampled (two test locations, minimum). Should the Contractor's testing demonstrate the girders are not lead based paint the requirements of this section are waived.

Lead Paint Removal

The Contractor is required to remove and dispose of lead based paint and paint residue before cutting, grinding, drilling and sandblasting existing materials in preparation of completing

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

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

Drilling of Lead Based Paint

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

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

Health and Safety Plan

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

Hazardous Waste Management Plan

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

The Hazardous Waste Management Plan shall:

- Be signed by the Contractor;
- State whether Contractor or licensed lead abatement subcontractor will be undertaking the work; and,
- State whether abated lead materials will be accumulated and stored on-site (required if Contractor is not licensed by DEP/EPA to transport and temporarily store lead

based hazardous waste), or be removed in HEPA vacuums daily to the removal Contractor's licensed waste storage facility (permitted only if Contractor is licensed by DEP/EPA to transport and temporarily store lead based hazardous waste).

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

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

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

- Inspections (including frequency and checklist):
  - Inspections shall be performed each day the Contractor works
  - Inspection checklist shall be similar to MaineDEP format (Refer to Appendix A1 of MaineDEP Handbook for Hazardous Waste Generators – January 2008)

- Transport and DOT "pre-transport requirements":
  - Specify the licensed hazardous waste transporter to be used
  - Obtain Generator's EPA ID No. (typically a provisional ID # is obtained through the licensed hazardous waste transporter)
  - USDOT – approved containers must be used for shipment
  - Schedule MTA for signing Hazard Waste Manifest

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

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

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

If the removal Contractor is not licensed by DEP/EPA to transport and temporarily store lead based hazardous waste off-site, then an EPA licensed Hazardous Waste transporter(s) shall

be used to remove hazardous waste from the site. All removal and disposal documentation will be required when the hazardous waste leaves the site. As the Generator, only the Authority's Environmental Services Coordinator or their trained designee shall sign waste manifests when material is removed from the Project site.

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

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 A**.

The Project is being permitted under Section 404 of the Clean Water Act, through the US Army Corps of Engineers Programmatic General Permit, Category II. Final permit authorization is anticipated by November 11, 2018. A Contract Modification will be issued acknowledging receipt or denial of the permit; providing the actual US Army Corps of Engineer's permit conditions; and providing Plan and Specification changes (if required) to adjust the Project schedule or phasing to meet the permit requirements. A copy of the unauthorized General Permit is attached in **Appendix B**.

A signed copy of the Category II Notification Form must be sent to the Army Corps Maine Project Office at least two weeks before work commences.

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 **5.5** 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 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.

This Project is also subject to the requirements of the Maine Pollutant Discharge and Elimination System (MPDES) General Permit for the Discharge of Stormwater from MTA's Municipal Separate Storm Sewer Systems (MS4), because it is located within an Urbanized Area (UA) as defined by the 2000 census by the U.S. Bureau of the Census. MS4 compliance requires all Contractors to be properly trained in Erosion and Sedimentation Control (ESC) measures (as per Special Provision Subsections 105.8.1 and 656.07) and implement measures to reduce pollutants in stormwater runoff from construction activities. Refer to **Appendix C** for MS4 requirements and the Contractors Signature of Acknowledgement.

107.1 Contract Time and Contract Completion Date

This Subsection is amended by the addition of the following:

All work shall be completed on or before June 25, 2021.

The construction of the proposed Cummings Road bridge shall be substantially complete by November 20, 2020.

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 bridge railing, base pavement, and surface pavement complete and open to traffic.

- The entire project shall be base paved and fully opened to all lanes of traffic, including temporary concrete barrier with appropriate end treatments, temporary striping, and signage. The installation of guardrail, curbing and final pavement need not be completed for substantial completion.

- All disturbed slopes loamed, seeded and mulched, temporary erosion control mix and/or blanket installed where necessary.

- All concrete barrier and maintenance of traffic devices removed from the Maine Turnpike and all lanes on the Maine Turnpike shall be open to traffic in its original position with all necessary guardrail, pavement, striping, and signing installed.

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

107.3.2 Night Work

This Subsection is amended by the addition of the following:

Nightwork will be allowed within the limitations defined in Section 652. The Contractor shall formally notify the Resident of their intent to perform night work a minimum of 14 calendar days ahead of the planned nightwork.

107.3.3 Sundays and Holidays

This Subsection is amended by the addition of the following:

Sunday work operations will be allowed within the limitations defined in Section 652. The Contractor shall formally notify the Resident of their intent to work on a Sunday a minimum of 14 calendar days ahead of the planned Sunday work.

The following Subsection is added:

107.4.6 Prosecution of Work

The Contractor shall incorporate the following operations and schedule restrictions into their Schedule of Work:

- Surface pavement, curbing, and guardrail within the Cummings Road approach roadways shall not be placed until May 15, 2021 to allow for expected settlement. The Contractor shall place temporary pavement ramps within the approaches at the bridge ends and provide temporary pavement markings as directed by the Resident prior to opening the new bridge to traffic. Temporary pavement ramps shall be constructed at a length of 10-ft per inch of transition depth and shall be removed prior to placement of the final surface pavement. Payment for temporary pavement ramps will not be made directly and will be incidental to related Contract Items.

- All tree removal activities shall be completed between the months of August and May.

- Steel H-pile and/or sheet pile driving shall not occur between the hours of 8:00 PM – 6:00 AM. H-pile driving will not be allowed within 10 feet of traffic.

- The installation of wick drains and placement of ground improvement surcharge embankments shall be complete on or before April 6, 2019 and shall remain in place for a minimum of four months. The required surcharge period may be lengthened as directed by the Resident based on the actual rate of settlement achieved. If the required surcharge period extends beyond five months and the surcharge installation completion date is met, subsequent project milestone dates, with the exception of any applicable environmental work windows, will be adjusted by an equivalent length of time. The placement of lightweight fill or related materials may not be placed until after the surcharge has been removed.

- The longitudinal closure placement in the bridge deck shall be cast and cured for a minimum of 24 hours without traffic on the bridge. The Contractor shall close the roadway to traffic for a maximum of thirty-six (36) consecutive hours, occurring between 7:00 PM on a Friday through 7:00 AM on Monday, to accommodate this operation. The roadway closure shall not occur on a holiday weekend nor between November 20, 2020 and January 4, 2021.

  The Contractor shall provide the Authority 14 days advance notification of the anticipated closure date to allow the Authority to coordinate with municipalities and local businesses. Seven (7) days ahead of the closure, the Contractor shall provide two portable changeable message signs along Cummings Road adjacent to the bridge notifying the public of the upcoming closure. The detour shown on the Plans shall be installed to accommodate traffic during this road closure and covered or removed immediately following the road closure. The Contractor will reimburse the Authority at the rate of $2,500.00 for each one-hour period, or portion thereof, that the bridge remains closed to traffic in excess of the 36-hour limit. Total penalty shall be deducted from the next pay estimate.

The following Subsection is added:

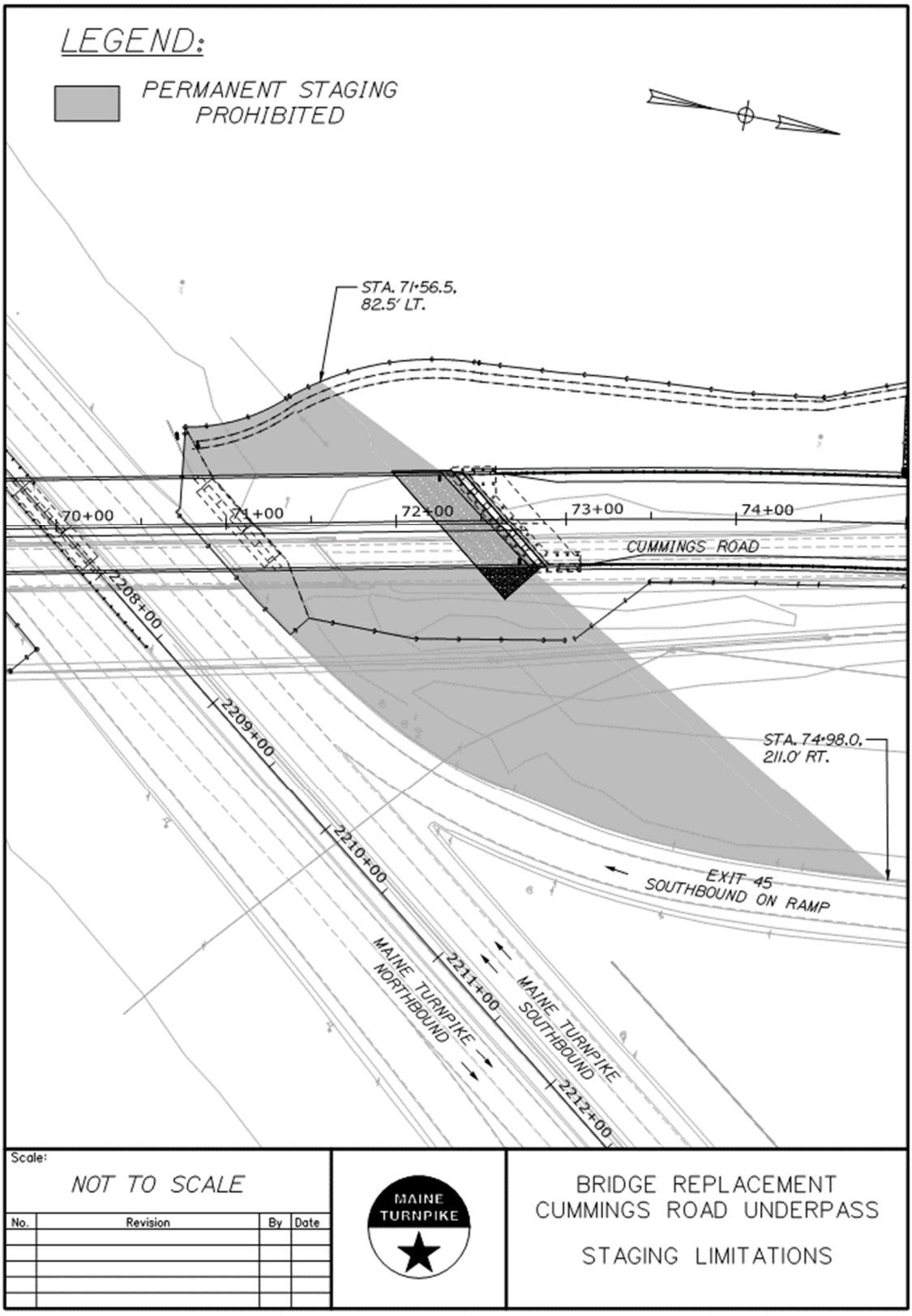
107.4.7 Limitations of Operations

The Contractor shall adhere to the following limitations:

- Due to the presence of marine deposits, material stockpiles exceeding 25 cubic yards will not be permitted on the project site to minimize the potential for slope instability. To the extent practical, the Contractor shall spread materials delivered for embankment construction as they arrive on site.

- Except as required for construction of the embankment surcharge, the Contractor will not be permitted to operate any cranes, heavy equipment or vehicles with a gross weight exceeding 5 tons on surcharged embankments. This restriction will be lifted following removal of the embankment surcharge.

- No permanent staging areas are allowed adjacent to the Exit 45 SB On-Ramp, within a region shown in the following Figure:



- Care shall be taken when working near catch basins to ensure foreign material and contaminants do not enter the basin. If foreign material and/or contaminants enter the basin, it shall be removed prior to the material exiting the basin into a waterway. Removal shall be completed to the satisfaction of the Resident and payment shall be incidental to the Contract.

- The Contractor shall submit their proposed staging and storage areas for approval by the Resident. All stored equipment must be outside of the clear zone. Proposed equipment storage locations shall be selected based on (1) proximity to UIS/Protected Natural Resources; (2) minimizing rutting or other actions that may hinder sheet flow from roadway; and (3) spill control and prevention, in the event of a fluid release from the equipment.

- The Contractor will not be permitted to place and remove temporary pavement markings on the final lift of surface pavement on the approaches. The final surface lift of pavement shall be placed utilizing temporary lane closures once all concrete barrier has been removed.

- The Contractor shall complete the work as shown on the phasing and maintenance of traffic plans. Modifications to the phasing or associated maintenance of traffic plans will not be permitted unless approved by the Resident.

- All roadway lanes, ramps, bridges and driveways shall remain open at all times unless otherwise noted herein or approved by the Resident.

- The Contractor shall progress the work in a manner that minimizes disruption to the public to the extent practical.

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

- Temporary lane shifts, lane closures, and shoulder closures along the Turnpike shall only be used during periods of activity. During periods of inactivity planned to last longer than one month, the Contractor shall shift or relocate temporary barrier and other maintenance of traffic devices to reestablish normal traffic conditions.

- Turnpike median lane shifts, lane closures, and shoulder closures will not be allowed between December 1 and February 28.

- The Contractor's operations shall be completed such that all entrances to residences and businesses remain open and accessible at all times during construction.

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Existing Bridge)

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.

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 203

EXCAVATION AND EMBANKMENT

(Geofoam Lightweight Fill)

203.01 Description

The following sentence is added:

This work shall include furnishing all qualifications, shop drawings, material and equipment, placing and providing approved field quality control personnel to install, oversee and certify the installation of the Geofoam Lightweight Fill, referred to in this Specification as expanded polystyrene (EPS), complete, as specified herein, and shown on the Plans.

The following Subsection is added:

203.011 Reference Publications

Some or all of the publications referred to hereinafter form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only. The latest edition of the referenced publication shall govern.

AMERICAN SOCIETY OF TESTING MATERIALS (ASTM) PUBLICATIONS

ASTM DESIGNATION	TEST METHOD FOR
C203	Breaking Load and Flexural Properties of Block-Type Thermal Insulation
C578	Rigid Cellular Polystyrene EPS Thermal Insulation
D732	Strength of Plastics by Punch Tool
C272	Water Absorption of Core Materials for Structural Sandwich Construction
D1621	Compressive Properties of Rigid Cellular Plastics
D1622	Apparent Density of Rigid Cellular Plastics
D1623	Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics
D6817	Standard Specification for Rigid Cellular Polystyrene Geofoam

203.02 Materials

The EPS block supplier shall provide the EPS blocks, mechanical fasteners, shop drawings for installation, and full time on-site supervision of the EPS block installation. Upon completion of the installation, the EPS block supplier shall provide a letter certifying that the EPS blocks were manufactured and installed in accordance with the Plans and Specifications and the approved shop drawings.

The following Subsections are added:

203.021 EPS Block Supplier Qualifications Submittal – (60 Days Prior to Delivery)

At least 60 calendar days prior to first delivery of EPS to the site, the Contractor and/or Geofoam supplier shall submit the following:

- List at least three (3) similar projects using EPS blocks in a load bearing or embankment application.
- Provide contact reference for each project with telephone number and address.
- Provide resumes of the Project Manager and the field quality control personnel listing specific geofoam lightweight fill project experience. Personnel to be assigned to this Project must be identified by the supplier and approved by the Authority or its Geotechnical Consultant. Alternate personnel may be used only after their qualifications are reviewed and approved by the Authority or its Geotechnical Consultant.

  Written documentation verifying that the Geofoam Supplier has a third-party certification program in force. If multiple Geofoam suppliers are used, each Supplier shall have a program in force. If multiple suppliers are used, third-party certification must be acceptable for each and every Supplier; otherwise, it will be denied for each and every molder. The documentation shall identify the business entity providing the third party certification, the firm's experience and qualifications, and shall describe in detail the steps to be taken by the agency to verify the Geofoam Supplier(s) compliance with the specific requirements described herein.
- Provide detailed description of manufacturing and field QA services to be provided for this Project.

A review of the EPS block supplier's qualifications, the third-party inspection firm qualifications, and quality assurance plan will be completed by the Authority or its Geotechnical Consultant within 10 days of receipt.

At least ten working days prior to the first delivery of Geofoam to the site, the Contractor shall provide certifications, in the form of a letter prepared by the Geofoam Supplier, that the Geofoam will be, or has been, manufactured in accordance with these Specifications and that the specified minimum physical property requirements will be, or have been, met.

No geofoam shall be shipped to the site until such time as all qualification related submittals have been reviewed and approved by the Authority.

Upon completion of the installation, the Contractor shall provide a letter certifying that the Geofoam was manufactured and installed in accordance with the Specifications and approved shop drawings. The letter shall include copies of all QA certification testing completed for the project.

203.022 EPS Block Supplier Shop Drawing Submittal – (60 Days Prior To Delivery)

At least 60 days prior to delivery of material to the site, the approved EPS block supplier shall submit complete shop drawings for the installation. The drawings shall indicate a placement pattern for all blocks in each layer. The blocks shall be labeled to match the approved shop

drawings. The submitted drawings shall include plans, elevations, and cross sections needed to clearly show the configuration and limits of the geofoam.

A review of the shop drawings or revised shop drawings will be completed by the Authority or its Geotechnical Consultant within 10 working days of receipt. If revisions are required, the supplier shall submit the revised shop drawings for review. EPS blocks shall not be shipped to the site prior to notification that the shop drawings have been approved for construction.

203.023 Geofoam Lightweight Fill

Geofoam Lightweight Fill shall be ASTM C 578 Type IX (or AASHTO EPS 100), 1.8 pcf minimum, conforming to this Specification, as supplied by:

Poly Molding Corp.
96 4th Avenue
Haskell, NJ 07420

Tel.: 800.229.7161
Fax: 973.835.2438

Insulation Technology, Inc.
P.O. Box 578
35 First Street
Bridgewater, MA 02324
Tel.: 508.697.6926
Fax: 508.697.6934

Thermal Forms, Inc.

P.O. Box 1981
6173 South Bay Road
Cicero, NY 13039
Tel.: 315.699.8734
Fax: 315.699.4969

Branch River Plastics

15 Thurber Boulevard
Smithfield, RI 02917

Tel.: 401.232.0270
Fax: 401.231.3434

or an approved equal.

EPS shall be fabricated using virgin feedstock manufactured into blocks having no more than five percent regrind content. Blocks shall initially have a height of at least two feet, a width of at least four feet, and length of at least eight feet except when otherwise approved by the Engineer. All blocks shall be shop-trimmed as necessary so that all surfaces are smooth and flat, and are within tolerances of 0.5 percent of respective height, width and length dimensions. The blocks shall be labeled to match the approved shop drawings. Additional field and/or shop trimming and cutting will be required as necessitated by the geometry of the fill being constructed.

EPS blocks shall conform to the specified type category in ASTM C-578 and have the following physical properties:

Physical Property	ASTM Test Procedures	Accepted Value	
		Type IX	Units
Density	D1622	1.8 (29)	pcf (Kg/m^3)
Compressive Resistance	D1621	10.9 (75)	psi (kN/m^2) Minimum @ 1% Deformation

Physical Property	ASTM Test Procedures	Accepted Value	
Flexural Strength	C203	50 (345)	psi (kN/m^2) Minimum
Tensile Strength	D1623	23 (159)	psi (kN/m^2) Minimum
Water Absorption	C272	2	%, Less than by volume

The EPS shall contain a flame retardant additive and shall have UL Certification of Classification as to External Fire Exposure and Surface Burning Characteristics. EPS should be considered combustible and should not be exposed to open flame or any source of ignition. EPS shall be treated with a tested and proven termite treatment for below grade applications in accordance with the ICC ES EG239 – Evaluation Guidance for Termite-Resistant Foam Plastics, to prevent insect attack and shall be protected from burrowing animals and vector intrusion. The treatment shall be an EPA registered agent for use with plastic foam, and the manufacturer shall present proposed treatment methods to the Resident for review and approval.

The Contractor shall furnish the Resident with a third party certified test report showing all data required to indicate compliance with the Specifications. The Contractor shall also furnish the Engineer with the ICC code report certifying the EPS supplier for manufacture of expanded polystyrene foam meeting all above requirements.

EPS Connector Plates shall be used to restrain EPS blocks from moving laterally in layer over layer application. Connectors shall be galvanized steel or stainless steel with a two-sided multi-barbed design capable of piercing EPS. Each connector shall have a lateral holding strength of at least 60 lbs. when tested with ASTM D 6817 EPS, with a safety factor of two.

The following Subsections are added:

203.041 Sampling and Testing

Quality assurance testing and sampling, to monitor the conformance of the EPS with the Specification requirements, will be completed as approved by the Resident. Density and geometry (dimensional tolerances) testing shall be conducted using full-size blocks. Blocks in conformance with Contract requirements can be used to make required fills.

Testing to monitor the quality of the EPS shall be done at the discretion of the Authority or its Geotechnical Consultant. The Authority and its Geotechnical Consultant has the right to randomly sample at the manufacturing plant and/or at the jobsite. If any block does not conform to the physical requirements, or if it is damaged in any way, it may be rejected by the Resident.

203.042 Protection

The EPS, as delivered, shall be free of defects or flaws that affect its workability quantities. The Contractor shall prevent damage to the EPS during delivery, storage, and construction. Prior to delivery of EPS to the Project site, the Contractor shall review and be thoroughly knowledgeable with the manufacturer's care and handling recommendations. The Contractor shall protect the EPS blocks from exposure to organic and petroleum based solvents. Any EPS to be exposed to sunlight

for more than 30 days shall be covered with opaque material which will prevent ultraviolet light degradation.

Placement of embankment will require special procedures and careful selection of appropriate construction equipment to prevent damage to the EPS. No heavy construction equipment or vehicles shall be allowed directly on the EPS or geomembrane. Damage to the EPS or geomembrane resulting from the Contractor's vehicles, equipment, or operations shall be replaced at the contractor's cost and to the satisfaction of the Engineer. EPS must be protected from petroleum-based solvents such as gasoline and diesel fuel.

Damage to EPS shall be corrected as follows:

Slight damage (less than 0.12 cubic feet) with no linear dimension greater than one foot may be left in place as-is.

Moderate damage (less than 0.35 cubic feet) with no linear dimension greater than 3.3 feet shall be filled with leveling sand.

EPS blocks with excessive damage (i.e., exceeding the "moderate" category) shall be replaced with EPS blocks which meet the damage criteria. EPS blocks not meeting the damage criteria may be cut to eliminate the excessive damage and the remaining undamaged portion of the block may be used within the fill, provided the undamaged portion of the block meets all other requirements.

Leveling sand, HDPE Geomembrane and embankment fill over the side slopes of the EPS shall be placed starting at the bottom of the slope in such a manner as to prevent damage to the EPS. Finished EPS on side slopes shall have a minimum of 1.5 feet of embankment fill cover.

Embankment fill over the side slopes of the EPS shall be placed starting at the bottom of the slope in such a manner as to prevent damage to the EPS.

The embankment fill over the side slopes shall be compacted using approved manually-operated compaction equipment.

203.043 Subgrade Preparation

Clear and grub site in accordance with Section 202, Clearing Right-of-Way, and Section 203, Excavation and Embankment. If necessary, provide temporary construction dewatering during subgrade preparation, placement of non-woven geotextile fabric, crushed stone and geofoam installation and filling until adequate cover is in place to prevent flotation of geofoam blocks. Temporary construction dewatering shall be provided at no additional cost to the Authority.

Bench into existing slope as required to provide a level subgrade to support each layer of geofoam. Recompact subgrade to a minimum of 90 percent of maximum dry density as determined by AASHTO T180 or as specified on the Plans. Place a uniform layer of leveling sand over the prepared surface, with a six inch minimum thickness. Level to 1/4 inch per 10 feet horizontal. Compact leveling sand to a minimum of 90 percent of maximum dry density as determined by AASHTO T180.

203.044 Placement

EPS shall be placed to the lines and grades shown in the approved shop drawings and as directed by the Geotechnical Consultant. The surface of a layer of EPS blocks to receive additional EPS blocks shall be constructed with a variation in surface tolerance of no more than 1/2 inch in any 10 foot interval. All blocks shall accurately fit relative to adjacent blocks and structures. No gaps greater than 1/2 inch will be allowed on vertical joints. The finished surface of the EPS beneath pavement sections shall be constructed to within the tolerances of zero to minus 0.2 foot of the indicated grade. The finished surface of the EPS on side slopes that receive soil cover shall be constructed to within a tolerance of plus 0.3 feet to minus 0.3 feet of the indicated grade.

Blocks placed in a row in a particular layer shall be offset two feet relative to blocks placed in adjacent rows of the same layer or as shown on the approved shop drawings. In order to avoid continuous joints, each subsequent layer of blocks shall be offset two feet relative to blocks placed in the previous layer. The long axis of all blocks will be placed perpendicular to the embankment centerline for the first layer. For multiple layers orient the successive layer of EPS at 90° to the direction of the layer underneath. Connector plates should be placed between horizontal layers of blocks. Blocks shall be cut using a saw or hot wire, where necessary.

Because of the light unit weight of the EPS, it is the Contractor's responsibility to provide temporary weighing and/or guying as necessary until all blocks are built into a homogeneous mass, and the soil cover and pavement section are in place.

Install a minimum of three connectors for each four foot by eight foot section of geofoam material, or as shown on approved shop drawings, or directed by the Geotechnical Engineer. For other block sizes, a minimum of 1 plate per 8 square feet of face shall be used. Press firmly into the rigid foam until the connector is flush with the surface. Position the next foam block as specified and set firmly before placing subsequent blocks.

203.18 Method of Measurement

The following sentences are added:

Geofoam Lightweight Fill furnished and placed in accordance with the Plans and Specifications shall be measured by the cubic yard in place and accepted.

203.19 Basis of Payment

The following paragraphs are added:

Geofoam Lightweight Fill will be paid for at the Contract unit price per cubic yard which shall be full compensation for furnishing all qualifications, on-site supervision from supplier, shop drawings, labor, materials, equipment, dewatering and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
203.43	Geofoam Lightweight Fill	Cubic Yard

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

(Leveling Sand)

203.01 Description

The following sentence is added:

This work shall include furnishing, placing, grading and densifying leveling sand as shown on the Plans or as approved by the Resident.

203.02 Materials

The following sentence is added:

Leveling sand shall meet the requirements of Subsection 703.05, Aggregate for Sand Leveling.

203.04 General

The following paragraph is added:

Leveling sand shall be placed and graded to a uniform slope as shown on the Plans. Compaction shall be achieved with an approved manually-operated power compactor or as directed by the Geotechnical Consultant.

203.18 Method of Measurement

The following sentence is added:

Leveling Sand shall be measured by the cubic yard complete and accepted in place.

203.19 Basis of Payment

The following sentences are added:

Leveling Sand will be paid for at the Contract unit price per cubic yard which shall be full compensation for all labor, materials, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
203.45	Leveling Sand	Cubic Yard

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

(Sand Drainage Blanket)

203.01 Description

The following sentence is added:

This work shall include furnishing, placing, grading and densifying drainage blanket sand as shown on the Plans or as approved by the Resident.

203.02 Materials

The following sentence is added:

Aggregate for sand drainage blanket shall be sand of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The aggregate shall meet the grading requirements of the following table.

Sieve	Percent Passing
2-inch	100
½-inch	65-100
¼-inch	50-100
No. 10	40-70
No. 40	10-40
No. 200	0-5

203.04 General

The following paragraph is added:

Sand drainage blanket shall be placed and graded to a uniform slope as shown on the Plans. Compaction shall be achieved with an approved manually-operated power compactor or as directed by the Geotechnical Consultant.

203.18 Method of Measurement

The following sentence is added:

Sand drainage blanket shall be measured by the cubic yard complete and accepted in place.

203.19 Basis of Payment

The following sentences are added:

Sand drainage blanket will be paid for at the Contract unit price per cubic yard which shall be full compensation for all labor, materials, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
203.46 Sand Drainage Blanket	Cubic Yard

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 PROVISION

SECTION 209

WICK DRAINS

(Prefabricated Vertical Drains)

209.01 Description.

This work shall consist of furnishing all necessary plant, labor, equipment, and materials, and performing all operations for the installation of prefabricated vertical (PV) drains in accordance with the details shown on the plans and with the requirements of these specifications. The drains shall consist of a band-shaped plastic core enclosed in a suitable jacket material and shall be spaced and arranged as shown on the plans, or as otherwise directed by the Engineer. The work shall include installing PV drains through up to 3 ft. of sand drainage blanket, and penetrating to a minimum depth of 3 ft. below the bottom of the marine silty clay stratum or to mandrel refusal below the marine silty clay.

209.02 Materials.

PV Drain - General. The PV drain shall consist of a core enclosed in a geotextile jacket. The jacket shall allow free passage of pore water to the core without loss of soil material or piping (i.e., jacket shall have a range of openings to perform similar to a graded filter). The core shall provide continuous vertical drainage. The drain shall be band shaped with a width to thickness ratio between 10 and 50.

The quality of the jacket and core materials shall not deteriorate over an extended period of time and shall be resistant against wet rot, mildew, bacterial action, insects, salts in solution in groundwater, acids, alkalis, and solvents. The jacket and core materials shall be environmentally safe.

PV Drain - Jacket. The jacket shall be commercially available, non-woven polypropylene filter fabric acceptable to the Engineer.

The jacket material shall not be subject to localized damage (e.g., punching through the filter by sand/gravel particles). The jacket material shall be sufficiently rigid to withstand lateral earth pressures to the maximum project installation depth so that the vertical flow capacity through the core channels will not be adversely affected.

The jacket material shall be sufficiently flexible to bend smoothly during induced consolidation settlement without structural breakage. The function of the drain shall not be affected due to the lateral movements which will likely accompany large settlements. The jacket material shall not undergo cracking and peeling during installation of the drain.

The jacket material shall conform to the following specifications:

Item	Test Designation	Requirement (Minimum)
Grab Tensile Strength	ASTM 4632	135 lbs.
Elongation at Break	ASTM 4632	30%
Mullen Burst Strength	ASTM 3786	175 psi

* The jacket material shall be tested in saturated and dry conditions. These requirements apply to the lower of the two tested conditions.

The jacket should have a minimum permeability of $1x10^{-5}$ cm/sec when tested according to the ASTM D4491.

PV Drain - Core. The core shall be a continuous plastic material fabricated with suitable drainage channels. The core shall be in physical contact with the jacket, but should not be continuously bonded to the jacket.

The core material shall conform to the following specifications:

Item	Test Designation	Requirement (Minimum)
Tensile Strength	(Uniaxial	235 lbs.
Elongation at Break	extension)	10%

* The core material shall be tested in saturated and dry conditions. These requirements apply to the lower of the two tested conditions.

The mechanical properties of the assembled PV drain shall equal or exceed those specified for the component jacket and core.

Splicing of the jacket and core shall not directly coincide. Necessary splices should be adequately offset to provide structural and hydraulic continuity.

A single type of assembled drain shall be used on the project unless otherwise approved by the Engineer.

The assembled drain shall have a minimum discharge capacity of 1.3 gal./min. as determined by ASTM D4716.

The assembled drain shall have a minimum equivalent diameter of 2.65 in. using the following definition of equivalent diameter:

$$d_w = \frac{2(a+b)}{\pi}$$

d_w = equivalent diameter of a circular drain

a = drain thickness
b = drain width

Each material roll shall be labeled or tagged in such a manner that the information for sample identification and other quality control purposes can be read from the label. As a minimum, each roll shall be identified by the manufacturer including lot or control numbers, individual roll number, date of manufacture, and manufacturer and product identification of the component parts (jacket and core).

Material which is damaged during shipment, unloading, storage, or handling at the job site and which does not meet the minimum requirements of the drain material shall be rejected by the Engineer. No payment of any kind shall be made for rejected drain materials.

Material shall be stored on site under protective cover to minimize possible damage due to sunlight, general weather conditions, and other site conditions.

The actual type of PV drain installed will be at the option of the Contractor subject to the approval of the Engineer.

PV Drain - Drainage Material. Prior to PV drain installation, place a 12-inch thick sand drainage blanket in conformance with Special Provision Section 203, Sand Drainage Blanket.

209.03 Contractor Requirements

The Contractor performing PV drain installation shall certify and provide proof to the Engineer of work experience including successful installation of at least 1,500,000 lineal feet of PV drain during the last five years and shall be a certified installer of the PV drain manufacturer. In addition, the Contractor shall have successfully completed at least five projects within the last five years of similar size and complexity in this type of installation in similar subsurface conditions.

The Contractor shall assign an experienced, full-time supervisor who has been in responsible charge of supervising PV drain installation operations for at least five projects in the last five years. The supervisor shall be present at the work site at all times during PV drain installation. Provide written verification of the supervisor's experience. The qualifications of the supervisor will be subject to the approval by the Engineer.

Approval of samples of PV drain materials by the Engineer will be required before delivery of the material to the project. The PV drain manufacturer shall be a specialist in the manufacture of PV drains and shall have produced a minimum of 1,500,000 lineal feet of the PV drain material proposed for the project that have been used in successful applications within the past five years.

The Contractor shall provide evidence of previous PV drain project experience, evidence of management, supervisory and key personnel experience, and evidence that the Contractor has installed PVDs to a comparable depth. A project summary shall be included for each referenced project. The project summary shall contain the start and completion date of the project, total quantity for the PV drains, and a detailed description of the project, site conditions and subsurface conditions. The project description shall include the nature of the project, details of the PV drain materials, the equipment and techniques used, and the total length of PV drains installed, individual

length of the deepest PV drain installed, the client name and address, and the name and telephone number of the representative of the consultant and owner for whom the work was performed and who can attest to successful completion of the work and any other information relevant to demonstrating the Contractor's qualifications.

209.04 Submittals

The Contractor shall submit for approval to the Engineer within two weeks after the award of the Contract the manufacturer's literature documenting the physical and mechanical properties of the drain (as a minimum those properties required by the specifications), evidence of previous similar projects where the proposed drain has been installed as required in the Contractor Requirements, an unspliced sample of the drain material at least 10 feet long, three samples of proposed splices, and accompanying manufacturer specifications of the PV drain material. The spliced samples shall include 3.5 feet of unspliced material on both sides of the splice. The samples should be stamped or labeled by the manufacturer stating they are representative of the PVD material having its specific trade name.

At least four weeks prior to the installation of the PV drains, the Contractor shall submit to the Engineer for review details of the sequence and method of installation including information on the installation rig, penetration method, mandrel and anchor, method of splicing, method for clearing obstruction, and source of material. Review by the Engineer shall not relieve the Contractor of their responsibility to install drains in accordance with these specifications.

209.05 Construction Requirements

The Contractor shall submit for approval to the Engineer the proposed source of the materials prior to delivery to the site. The Contractor shall also retain a supplier's purchase certificate to verify the type and physical characteristics of the drain to be used.

During construction, individual test samples shall be cut from at least one product roll selected at random. Individual samples shall be no less than 10 ft. in length and shall be full width. Samples submitted for tests shall indicate the linear feet of drain represented by the sample. The total footage represented by the sample shall not be used until the Engineer has accepted the sample (verified physical dimensions, manufacturer, drain designation, and manufacturers' certification of physical and chemical properties).

Should any individual sample selected at random fail to meet any specification requirement, then that roll shall be rejected and two additional samples shall be taken at random from two other rolls representing the shipment. If either of these two additional samples fail to comply with any portion of the specification, then the entire quantity of vertical drain represented by that sample shall be rejected.

PV drains shall be installed with approved modern equipment of a type which will cause a minimum of disturbance of the subsoil during the installation operation and maintain the mandrel in a vertical position. Approval of PV drain installation equipment by the Engineer will not relieve the Contractor of the responsibility to install PV drains correctly. If at any time the Engineer concludes that the Contractor's methods of installation do not produce a satisfactory PV drain or degrade the quality of the drainage blanket, the Contractor shall alter the method and equipment as necessary to produce satisfactory results.

Drains shall be installed using a mandrel or sleeve which shall be inserted (i.e., pushed hydraulically) into the soil. The mandrel or sleeve shall protect the drain material from tears, cuts, and abrasion during installation, and shall be retracted after each drain installed. The mandrel or sleeve shall be provided with an "anchor plate" or "rod" (or similar arrangement) at the bottom to prevent the soil from entering the bottom of the mandrel during the installation of the drain and to anchor the bottom of the drain at the required depth at the time of the removal of the mandrel.

The dimensions of the anchor shall conform as closely as possible to the dimensions of the mandrel so as to minimize soil disturbance.

Prior to the installation of production PV drains, the Contractor shall demonstrate that the proposed equipment, method, and materials produce satisfactory installation by installing trial PV drains at each test location as designated by the Engineer. The first production PV drain installed on both the North and South approaches may be designated as test locations.

In the preparatory stage of installation and prior to the installation of PV drains, the Contractor shall:

a. Remove any surface obstructions present at the location of proposed drains,
b. Conduct site stripping and site grading as required,
c. Pre-auger frozen ground cover, if necessary,
d. Provide access to the site for the installation equipment as required.

PV drains will be located, numbered, and staked out by the Contractor. The Contractor shall take all reasonable precautions to preserve the stakes and is responsible for any necessary re-staking. The as-installed location of the PV drains shall not vary by more than six inches from the design locations.

PV drains that are out of proper location by more than six inches or are damaged or improperly installed will be rejected. Rejected drains shall be abandoned in place. The Contractor shall install additional PV drains to replace the damaged ones.

PV drains shall be installed from the working surface at the time of installation, and shall penetrate through up to 3 ft. of a sand drainage blanket course. PV drains shall penetrate to a minimum depth of 3 ft. below the bottom of the marine silty clay stratum or to mandrel refusal below the marine silty clay, unless otherwise directed by the Engineer. The Contractor shall review the logs of test borings which were drilled near the required prefabricated vertical drain limits for information regarding depths to the bottom of the marine clay stratum and other subsurface information. The Engineer may vary the depths, spacings, or the number of drains to be installed, and may revise the plan limits for this work, as necessary.

During installation of the PV drain, the Contractor shall provide suitable means of determining the depth of the advancing drain at any given time.

The Contractor shall supply the Engineer with suitable means of determining the quantity of PV drain installed at each location.

The Contractor shall supply to the Engineer at the end of each working day a summary of

the PV drains installed that day. The summary shall include drain type, locations, and length of PV drain installed at each location, and the location of any PV drains that do not extend to the planned depth.

The Contractor shall be responsible for penetrating overlying material as necessary to satisfactorily install the PV drains including advancing through dense or frozen ground and removing obstructions.

The Contractor's obstruction clearance procedure is subject to the review of the Engineer. However, such review shall not relieve the Contractor of the responsibility to clear obstructions in accordance with these specifications.

If obstructions are encountered below the working surface which cannot be penetrated by the drain installation equipment or the Contractor's preaugering or other obstruction clearance procedure, the Contractor shall notify the Engineer prior to completing the drain from the elevation of the obstruction to the working surface and prior to installing any more drains. At the direction of the Engineer, the Contractor shall attempt to install a new offset drain including obstruction clearance procedures within two (2) feet horizontally of the obstructed drain. For all obstructed and offset drains, a maximum of two attempts shall be paid at the contract unit price unless the drain is improperly completed. The Contractor will be paid at the contract unit price for the linear feet of attempted obstructed and offset drains as directed by the Engineer.

Splices or connections in the PV drain material shall be by stapling, and shall provide structural and hydraulic continuity of the drain. A maximum of one splice per installed drain will be permitted, unless specific permission is granted by the Engineer. Splicing shall be performed in advance of the mandrel insertion so that the mandrel penetration is not stopped during the installation of a drain above the design level for the sole purpose of splicing the drain.

The PV drain shall be anchored using a friction anchor or dead weight anchors to prevent pulling the drain out of the soil as the mandrel is withdrawn. The anchorage system should minimize disturbance of the surrounding soil. The Engineer shall determine whether the anchorage system and procedure is acceptable.

Equipment for installing PV drains shall be plumbed prior to installing each drain and shall not deviate from vertical more than 0.4 feet in 10 feet during installation of any drain.

PV drains shall be installed using a continuous push under the static weight of the equipment. The mandrel shall be advanced in such a manner as to advance the drain in a continuous manner to the depths required, without any damage to the drain during advancement or retraction of the mandrel. In no case will alternate raising or lowering of the mandrel during advancement be permitted. Raising of the mandrel will only be permitted after completion of a drain installation. Installation techniques requiring driving will not be permitted. The use of a vibrator, impact hammer or jetting techniques will not be permitted unless approved by the Engineer.

The mandrel penetration rate shall be between 0.5 and 2 feet per second.

The completed PV drain shall be cut off neatly 0.5 feet above the working grade.

The Contractor shall observe precautions necessary for protection of any field

instrumentation devices. After instrumentation devices have been installed, the Contractor shall replace, at his own expense, any equipment (instrument) that has been damaged or becomes unreliable as a result of his operations.

209.06 Method of Measurement

PV drains will be measured by the linear foot. The length of PV drains to be paid for shall be the distance the installation mandrel tip penetrates below the working grade. All measurements shall be rounded to the nearest whole foot.

PV drains placed in excess of the length as specified herein will not be paid for unless the additional length was authorized by the Engineer prior to or during the drain installation.

209.07 Basis of Payment

Payment for PV drains shall be made at the contract unit price per linear foot, which price shall be full compensation for the cost of furnishing the full length of PV drain material, installing the PV drain, altering of the equipment and methods of installation in order to produce the required end result in accordance with the contract drawings and specifications, and shall also include the cost of furnishing all tools, materials, labor, equipment and all other costs necessary to complete the required work.

No direct payment shall be made for unacceptable PV drains, or for any delays or expenses incurred through changes necessitated by improper or unacceptable material or equipment.

No direct payment will be made for mobilization, demobilization, obstruction clearance, or constructing any work platform. The cost of such shall be included in the unit price bid for PV drains.

Pay Item	Pay Unit
209.29 Prefabricated Vertical Drains	Linear Foot

SPECIAL PROVISION

SECTION 401

HOT MIX ASPHALT PAVEMENT

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

401.01 Description

The following paragraph is added:

A Quality Control Plan(QCP) is required.

401.02 Materials

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

Aggregates for HMA Pavements Coarse Aggregate and fine aggregate for HMA pavements shall be graded such that when combined in the proper proportions, including filler if required, the resultant blend will meet the composition of mixture for the type of pavement specified. Materials shall meet the requirements specified in Section 700 – Materials:

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

Mainline Surface HMA Coarse aggregate: The material retained on the No. 4 sieve, shall consist of angular fragments obtained from crushed quarry stone and be free of dirt or other objectionable materials. Coarse aggregate shall have a Micro-Deval value of 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 [140ºF]	3.0mm [1/8 in] max
Bond, non-immersed	Three 12.7mm [½ in] specimens pass 3 cycles @ 200% extension @ -29°C [-20ºF]
Resilience, %	60 min
Asphalt Compatibility, ASTM D5329	pass*

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

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

Section 401.03 Composition of Mixtures

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

HMA pavement mixtures for 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_{mm})			Voids in the Mineral Aggregate (VMA)(Minimum Percent) Nominal Maximum Aggregate Size (mm)				Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
	$N_{initial}$	N_{design}	N_{max}	19	12.5	9.5	4.75		
10 to <30	≤89.0	96.0	≤98.0	13.5	14.5	15.5	15.5	65-80*	0.6-1.2

** 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 (ºC)	Maximum Rut Depth (mm)	Minimum Number of Passes	Minimum Allowable SIP*
64-28	45	12.5	20,000	15,000
64E-28	45	8.0	20,000	15,000
70E-34	45	6.3	20,000	15,000

* 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 sublot that has a density lower than 92.0% as outlined below.

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

SECTION 403

HOT MIX ASPHALT PAVEMENT

403.01 Description

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

403.03 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.

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.

403.05 Basis of Payment

The following pay item is added:

Pay Item		Pay Unit
403.2084	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (sidewalks,drives, islands& incidentals)	Ton

SPECIAL PROVISION

SECTION 403

HOT MIX ASPHALT PAVEMENT

Course	HMA Grading	Item Number	Total Thickness	No. of Layers	Complimentary Notes
Cummings Road Bridge					
Wearing	**12.5mm**	**403.208**	**3”**	**2**	**B,E,J,L,N**
Cummings Road Underpass Approaches					
Wearing	**12.5mm**	**403.208**	**1.5”**	**1**	**B,E,J,L,N**
Binder	**12.5mm**	**403.213**	**1.5”**	**1**	**B,E,J,L,N**
Base	**19.0 mm**	**403.207**	**2.5”**	**1**	**B,E,J,L,N**
Temporary Pavement – Maine Turnpike and Cummings Road					
Wearing	**12.5mm**	**403.08**	**4”**	**2**	**B,E,J,L,N**
Driveways					
Wearing	**12.5mm**	**403.2084**	**2”**	**1**	**B,E,J,L,N**
Shim on Cummings to account for settlement					
Wearing	**4.75mm**	**403.212**	**Varies**	**Varies**	**B,E,J,L,N**

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 **75 gyrations**. (N design) Minimum and Maximum PGAB content shall not apply.
F. The MTA will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 10 to <30 million ESALS for mix placed under this contract. The design verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**. (N design)
G. 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.

SPECIAL PROVISION

SECTION 409

BITUMINOUS TACK COAT

409.02 Bituminous Material

This Subsection is deleted and replaced with the following:

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

409.05 Equipment

Add "or as determined by the Resident", after the words "gal/yd^2]" in the fourth line of the second paragraph of this Subsection.

409.06 Preparation of Surface

The following paragraph is added:

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

409.08 Method of Measurement

The following paragraphs are added:

Measurement will be based on delivery slips made out in duplicate by the Contractor and signed by the Resident, or their 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 their representative's signature.

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

Cleaning of the surface area where tack coat is to be applied shall be incidental to Item 409.15, Bituminous Tack Coat - Applied.

409.09 Basis of Payment

The following pay items are added:

Pay Item		Pay Unit
409.15	Bituminous Tack Coat – Applied	Gallon

SPECIAL PROVISION

SECTION 419

SAWING AND SEALING JOINTS IN BITUMINOUS PAVEMENT

(Sawing Bituminous Pavement)

419.01 Description

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

419.02 General

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

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

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

419.03 Method of Measurement

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

419.04 Basis of Payment

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

Payment will be made under:

Pay Item		Pay Unit
419.30	Sawing Bituminous Pavement	Linear Foot

SPECIAL PROVISION

SECTION 502

STRUCTURAL CONCRETE

(Distribution Slab)

502.14 B. Structural Concrete Slab Structures

This first paragraph is deleted and replaced with the following:

Include, but not limited to, structural concrete deck slabs, wearing surfaces, slabs on precast superstructures, top and bottom slabs of box culverts, approach slabs, distribution slabs, rigid frame structures and simple slab spans, as applicable. Screed rails shall be set entirely above the finished surface of the concrete and shall be supported in a manner approved by the Resident. Where shear connector studs are available, welding to the studs will be permitted. No welding will be permitted directly on the stringer flanges to attach either screed rail supports or form supports of any type.

502.18 B. Method of Measurement

The following is added to the end of the section:

11. Structural Concrete Distribution Slabs. The limit will be the entire distribution slab or slabs as shown on the Plans.

502.19. Basis of Payment

The following is added to this section:

Pay Item		Pay Unit
502.452	Structural Concrete Distribution Slab	Lump Sum

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.

504.641 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 PROVISION

SECTION 506

SHOP APPLIED PROTECTIVE COATING - STEEL

(Thermal Spray Coating– Shop Applied)

506.05 Inspection

This section is amended by the addition of the following:

The QAI shall be given ample notice 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 coated 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.

506.35 Seal Coat and Top Coat Application (Paint)

This section is amended by the addition of the following:

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

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

SPECIAL PROVISION

SECTION 507

RAILINGS

507.09 Basis of Payment

Payment will be made under:

Pay Item		Pay Unit
507.091	Aluminum Bridge Railing, 1 Bar	Lump Sum

SPECIAL PROVISION

SECTION 511

COFFERDAMS

(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.

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 Authority shall not result in any liability upon the Authority and it shall not relieve the Contractor of the responsibility for the satisfactory functioning of the temporary earth support system.

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 such 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 beyond the depth of excavation and shall be 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, 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 PROVISION

SECTION 515

PROTECTIVE COATING FOR CONCRETE SURFACES

(Clear Concrete Protective Coating)

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

515.01 Description

The work shall include the surface preparation and application of a clear protective coating on concrete surfaces to protect new cast-in-place concrete, precast concrete and masonry structures. The coating system shall be applied to piers, endposts, curbs and fascia in accordance with the Plans, Specifications and the manufacturer's published recommendations.

515.02 Materials

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

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

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

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

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

515.021 Substitute Materials

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

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

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

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

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

515.03 Surface Preparation

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

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

515.04 Application

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

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

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

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

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

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

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

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

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

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

515.05 Method of Measurement

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

515.06 Basis of Payment

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

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 524

TEMPORARY STRUCTURAL SUPPORTS

(Protective Shielding - Steel Girders)

524.01 Description

The following paragraph is added:

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

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. 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:

Pay Item		Pay Unit
524.40	Protective Shielding - Steel Girders	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.

Temporary Bi-Directional Delineators shall be installed on the roadway face of all temporary concrete barrier in conformance with Special Provision 526, Concrete Barrier (Temporary Concrete Barrier Type I – Supplied by Authority).

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. 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.

f. 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:

All Single Face 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.

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. 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.

526.04 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, and the filling of voids will not be measured separately for payment, but shall be incidental to the cost of the barrier.

526.05 Basis of Payment

The following paragraph is added:

Single Face 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:

Pay Item		Pay Unit
526.304	Temporary Concrete Barrier, Anchored	Lump Sum

SPECIAL PROVISION

SECTION 526

CONCRETE BARRIER

(Temporary Concrete Barrier Type I - Supplied by Authority)

526.01 Description

The following paragraphs are added:

This work shall consist of loading, transporting, setting, resetting, removing, transporting and stacking Temporary Concrete Barrier Type I – Supplied by Authority. The barrier shall have attachments allowing individual sections to be connected into a continuous barrier. The barrier shall also allow for installation of ground pins.

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

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

Maintenance Area	Linear Feet of Barrier
Crosby Maintenance Area Mile 45.8 Southbound	2,190

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:

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

Retro-Reflective Delineators shall be mounted as follows:

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

526.04 Method of Measurement

The following paragraphs are added:

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

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

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

526.05 Basis of Payment

The fifth paragraph is deleted and not replaced.

The following paragraphs are added:

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

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 527

ENERGY ABSORBING UNIT

(Work Zone Crash Cushion)

527.01 Description

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

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

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

527.02 Materials

The following paragraph is added:

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.

527.05 Basis of Payment

Payment will be made under:

Pay Item		Pay Unit
527.341	Work Zone Crash Cushions – TL-3	Unit
527.342	Work Zone Crash Cushions – TL-2	Unit

SPECIAL PROVISION

SECTION 604

MANHOLES, INLETS AND CATCH BASINS

(Rebuild Catch Basin to Grade – Type II)

604.01 Description

This Subsection is amended by the addition of the following:

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

604.02 Materials

The following sentences are added:

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

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

The third paragraph should be deleted and replaced with:

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

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

5521Z - 8 Inch Frame Product Number 00552111
5546Z – 6 Inch Frame Product Number 00554611
5544Z - 4 Inch Frame Product Number 00554411

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

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

5520M5 Grate Product Number 00552060

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

5520M8 Product Number 00552084 or 5520M8 Product Number 00552085

604.04 Altering, Adjusting, and Rebuilding Catch Basins and Manholes

This Subsection is deleted and replaced with the following:

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

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

Rebuild Catch Basin to Grade – Type II

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

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

604.05 Method of Measurement

The following are added after Subsection e. Grate:

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

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

604.06 Basis of Payment

The following paragraphs are added after the first paragraph:

The accepted quantity of Rebuild Catch Basin to Grade – Type II will be paid for at the Contract unit price each. This price shall be full compensation for removing existing frame and grate,

rebuilding the catch basin top to grade, reinstalling the existing frame, cleaning the horizontal surface, applying the elastomeric sealer, reinstalling the existing grate, and all other labor, equipment and materials required to complete the work.

The second paragraph is deleted and replaced with the following:

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

Sawing bituminous pavement will not be measured separately for payment, but shall be incidental to the related drainage items.

Payment will be made under:

Pay Item		Pay Unit
604.184	Rebuild Catch Basin to Grade – Type II	Each

SPECIAL PROVISION

SECTION 604

MANHOLES, INLETS AND CATCH BASINS

(Special Catch Basins)

604.01 Description

The following paragraphs are added:

This work shall consist of furnishing and installing a Filterra Bioscape Vault Basin and Filterra Standard Offline Basins as manufactured by Contech Engineered Solutions, 9025 Centre Pointe Drive, West Chester, OH 45069 or approved equal, 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.

This work shall also include furnishing and installing a 6" underdrain connection pipe and a 24" Drain Basin with Dome Grate as manufactured by Nyloplast, 3130 Veronia Avenue, Buford, GA30518 or approved equal, in accordance with these specifications and the manufacturer's installation instruction and in reasonably close conformity with the lines and grades as shown on the plans or as approved by the Resident.

604.02 Materials

The following sentences are added:

Underdrain pipe shall meet the requirements of Subsection 605.02 Materials.

604.05 Method of Measurement

The following sentences are added:

Special Catch Basins shall be measured by each unit complete and accepted in place.

604.06 Basis of Payment

The following is added after the first paragraph:

The accepted quantity of Special Catch Basins will be paid for at the contract unit price each of the respective types complete in place. Payment for the Bioscape Vault Basin includes the underdrain pipe connection and drain basin with dome grate and no separate payment will be made.

Payment will be made under:

Pay Item		Pay Unit
604.301	Special Catch Basin - Bioscape Vault Basin	Each
604.302	Special Catch Basin - Standard Offline Basin	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:

Pay Item		Pay Unit
606.13	31" W-Beam Guardrail – Mid-way Splice (7' Steel Posts, 8" Offset Blocks, Single Faced)	Linear Foot
606.1306	31" W-Beam Guardrail – Mid-Way Splice Tangent Terminal (31" Height)	Each
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 PROVISION

SECTION 606

GUARDRAIL

(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:

Pay Item		Pay Unit
606.1351	Terminal End - Anchored End – 31” W-Beam Guardrail	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Bridge Transition- Type III)

606.01 Description

The following sentence is added:

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

The following Subsection is added:

606.071 Guardrail Attachments at Bridges

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

606.08 Method of Measurement

The following sentence is added:

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

606.09 Basis of Payment

The following paragraphs are added:

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

Payment will be made under:

Pay Item		Pay Unit
606.1723	Bridge Transition - Type III	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Terminal End - Anchored End)

606.01 Description

The following sentence is added:

This work shall consist of furnishing and installing Terminal End – Anchored End, and Terminal End, Anchored End – Thrie Beam end treatments in accordance with these Specifications, the AASHTO-AGC-ARBTA Joint Committee Task Force 13 Report: A Guide to Standardized Highway Barrier Hardware, dated May 1995; 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 of 2 of Drawing SEW02a – Trailing End Terminal – Foundation Tube Option in the Task Force 13 Report noted above and/or as noted in the Contract Documents.

The following Subsection is added:

606.042 Terminal End - Anchored End

Installation of the Terminal End – Anchored End shall be in strict accordance with the AASHTO-AGC-ARBTA Joint Committee Task Force 13 Report and the Details on Sheet No. 1 of 2 of Drawing SEW02a – Trailing End Terminal – Foundation Tube Option.

Height of installation of Terminal End – Anchored End units shall be 27.5-inches to the top of rail, transitioning to the standard height of 30-inches over a 25-foot length of Type 3d rail located immediately after the last post of the Anchored End unit.

Height of installation of Terminal End – Anchored End, Thrie Beam units shall be 32.0-inches to the top of rail, transitioning to the standard height of 30-inches over a 25-foot length of Type 3d rail located immediately after the last post of the Thrie Beam Anchored End unit.

The reveal on the soil tube for the Anchored End units shall not exceed 3.5-inches. If site grading is be required to achieve the required rail height and soil tube reveal height, then such work will be incidental to the installation of the Anchored End units

606.08 Method of Measurement

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

606.09 Basis of Payment

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

Payment will be made under:

Pay Item		Pay Unit
606.278	Terminal End - Anchored End	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(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 that 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^{th} post.

6. On Curves, mount delineators every 31.25-feet or every 5^{th} 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™ DG³ 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:

Pay Item		Pay Unit
606.352	Reflectorized Beam Guardrail Delineator	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Delineator Post – Remove and Reset)
(Delineator Post – Remove and Dispose)

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 or removing and disposing existing delineator posts within the Contract limits. 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 Disposed will not be measured separately for payment, but shall be incidental to related contract items.

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.

Payment will be made under:

Pay Item		Pay Unit
606.3561	Delineator Post - Remove and Reset	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

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

606.01 Description

The following paragraphs are added:

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

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

606.02 Materials

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

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

606.08 Method of Measurement

The following paragraphs are added:

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

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

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

W-beam rail elements to replace damaged rail elements shall come from the stockpile of guardrail from the Remove and Stack or the guardrail to be disposed of from this Contract and will

not be measured separately for payment. If, in the opinion of the Resident, there are no suitable W-beam rail elements in the stockpile then the W-beam rail elements will be measured for payment.

606.09 Basis of Payment

The following paragraphs are added:

Payment will be made under:

Pay Item		Pay Unit
606.3605	Guardrail – Remove, Modify and Reset Single Rail	Linear Foot
606.3606	Guardrail – Remove, Modify and Reset Double Rail	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 their own expense.

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

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

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:

Pay Item		Pay Unit
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:

Pay Item		Pay Unit
619.1201	Mulch – Plan Quantity	Unit
619.1202	Temporary Mulch	Lump Sum

SPECIAL PROVISION

SECTION 620

GEOTEXTILES

(HDPE Geomembrane)

620.01 Description

The following sentence is added:

This work shall include installation of HDPE geomembrane as shown on the Plans or as approved by the Resident.

620.02 Materials

The following paragraph is added:

HDPE geomembrane shall be Poly-Flex 40 mil High Density Polyethylene (HDPE) as manufactured by Poly-Flex, Inc., 2000 W. Marshall Drive, Grand Prairie, TX 75051, (972) 647-4374, Fax (972) 988-8331, or an approved equal.

620.03 Placement

The following paragraphs are added:

HDPE geomembrane shall be placed within the limits shown on the Plans. A surface slope shall be provided in the underlying leveling sand away from structures and toward the sides of the embankments.

HDPE geomembrane deployment shall proceed only when ambient temperatures are between 32°F to 104°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 or Geotechnical Consultant. Observation of temperature, humidity, precipitation and wind should be noted to ensure that the weather conditions are acceptable prior to HDPE geomembrane placement.

620.05 Seams

The following paragraphs are added:

Approved seaming processes are hot shoe fusion and extrusion welding. On side slopes, seams shall be oriented in the general direction of maximum slope, (i.e., oriented down, not across the slope). In corners and odd-shaped geometric locations, the number of field seams shall be minimized. Seams shall be aligned with the least possible number of wrinkles and “fishmouths”. If a fishmouth or wrinkle is found, it shall be relieved and cap-stripped.

Geomembrane panels must have a 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.

620.09 Method of Measurement

The words, "and HDPE Geomembrane" shall be added after the word "geotextiles" in the first and second sentence of the first paragraph.

620.10 Basis of Payment

The words, "and HDPE Geomembrane" shall be added after the word "geotextiles" in the first and second sentence of the first paragraph.

Payment will be made under:

Pay Item		Pay Unit
620.70	HDPE Geomembrane	Square Yard

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(White or Yellow Pavement Marking Line)

627.01 Description

The following sentences are added:

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

The following sentence is added:

This work shall consist of furnishing and placing pavement marking paint and temporary pavement marking paint at locations as shown on the Plans or as directed by the Resident.

627.02 Materials

The following is added before the last paragraph:

The paint for pavement markings shall be 100% acrylic waterbase paint.

627.04 General

The following is added to the third paragraph:

Dotted white lines (DWL) shall consist of alternate 3 foot painted line segments and 9 foot gaps.

Permanent pavement marking paint shall be applied at the end of each work week prior to opening the work area to traffic or as approved by the Resident.

Temporary pavement marking paint and temporary pavement markers shall be applied daily prior to opening the work area to traffic during non-work hours or as approved by the Resident.

627.08 Removing Lines and Markings

The last sentence is deleted and is not replaced.

627.09 Method of Measurement

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 and dotted white lines, will include the gaps when painted. Temporary painted pavement marking lines will be measured for payment by the linear foot.

627.10 Basis of Payment

This Subsection is deleted and replaced with the following:

The accepted quantity of white or yellow pavement marking lines will be paid at the Contract price per linear foot. This price shall include all labor and materials to furnish, and install the paint line.

The accepted quantity of broken and dotted white pavement marking lines will be paid at the Contract price per linear foot. This price shall include all labor and materials to furnish and install the paint line.

The accepted quantity of temporary white or yellow 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 marking.

Payment will be made under:

Pay Item		Pay Unit
627.712	White or Yellow Pavement Marking Line	Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary 6 Inch Pavement Marking Tape)

627.01 Description

The following sentence is added:

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

627.02 Materials

The following paragraph is added:

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

627.04 General

The following paragraphs are added:

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

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

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

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

627.06 Application

The following paragraphs are added:

For application of the tape, when the pavement temperature is below 50$_{o}$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 will be made under:

Pay Item		Pay Unit
627.73	Temporary 6 Inch Pavement Marking Tape	Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary Raised Pavement Markers)

627.01 Description

The following sentence is added:

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

627.02 Materials

The second paragraph is deleted and replaced with the following:

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

627.04 General

The following sentences are added:

Temporary raised pavement markers shall 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:

Pay Item		Pay Unit
627.812	Temporary Raised Pavement Markers	Each

SPECIAL PROVISION

SECTION 639

INSTRUMENTATION

(Geotechnical Instrumentation)

Section 639, Engineering Facilities, is amended by the addition of the following:

639.01 Description

The work shall consist of furnishing, calibrating, and installing instrumentation as shown on the Plans to monitor soil behavior. Instruments for monitoring soil behavior include groups of nested vibrating wire (VW) piezometers with two sensors per location. Instrumentation which shall be provided and installed by the Contractor with instrument cables and supplier compatible readout unit. The Contractor shall install weather tight instrument cabinets to house the ends of the instrument cables. In addition, the Contractor shall furnish and install support for the instrument cabinets, and support for the mounting poles. The Contractor's construction schedule shall take into account the timing of the instrumentation installation as described in this Special Provision. The work also includes protecting the instrumentation described in this Special Provision from damage and repairing or replacing damaged and/or inoperative instruments. All instruments are to be the property of the Authority and will not be decommissioned without the authorization of the Authority. After installation of the geotechnical instrumentation is complete the preload and instrumentation shall be left in place until 95% of primary consolidation is complete based on the instrumentation readings. Instrumentation shall not be removed without written approval by the Engineer upon review of the instrumentation readings.

639.02 Materials

VW Piezometers. The Contractor shall provide groups of nested VW piezometers with two sensors per location as shown on Plans. The VW piezometers shall have a range of 50 psi. The VW piezometers and readout unit shall be supplied by Slope Indicator Company (hereafter referred to as Sinco), Geokon, Inc. or Roctest, Inc. The VW piezometers, required cable, and readout unit shall be supplied by the same manufacturer. All of the VW piezometers shall be of the same make and model. The VW piezometers, and cable shall consist of one of the following or approved equal with the approval of the Engineer:

Geokon, Inc.	
VW piezometer	Model: 4500S, Range: 50 psi
Cable, high density polypropylene, PVC jacket	As specified by the manufacturer
Connectors	As specified by the manufacturer
Sinco	
VW piezometer	Model: 52611020, Range: 50 psi
Cable, polyurethane jacket	As specified by the manufacturer
Connectors	As specified by the manufacturer
Roctest, Inc.	

VW piezometer	Model: PWS, Range: 50 psi
Cable, flexible polyethylene jacket	As specified by the manufacturer
Connectors	As specified by the manufacturer

A factory calibration shall be conducted on each VW piezometer prior to shipment. Certification shall be provided to indicate that the VW piezometers are calibrated and maintained in accordance with the manufacturer's calibration requirements and that the calibrations are traceable to the National Institute of Standards and Technology. Calibration of the VW piezometers shall be performed for increasing and decreasing loading, temperature conditions, and barometric pressure, when applicable, for at least two cycles. The manufacturer shall supply a calibration curve and/or equation for each VW piezometer, which allows for the pore water pressure to be quickly calculated, either by manufacturer-supplied, product specific software or computer based spreadsheet software. A unique identification number shall be marked on each instrument and corresponding calibration curve and/or equation.

The VW piezometers require the following additional materials and installation procedures, which shall be supplied and paid for by the Contractor:

A. Barometer (if necessary). The barometer shall be accurate to ±0.1 inch of Hg. Barometer readings shall be on site at the same elevation as the reservoir. Reports from weather stations are not adequate and are not be acceptable.

B. Filter Sand. MDOT 703.05, Aggregate for Sand Leveling, with the added provisions that the maximum aggregate size be 0.5 inches with no angular pieces.

C. Bentonite Pellets.

D. Cement Type I or II.

E. Bentonite Powder.

F. Technical Representative. The supplier of the VW piezometers shall supply a Technical Representative with expert knowledge on the VW piezometers used, and who has at least 4 years of experience in installation and monitoring of VW piezometers. The Technical Representative shall:

1. Prepare detailed step-by-step installation procedures based on the general installation procedure provided in this Special Provision, calibration and maintenance procedures for the VW piezometers. These procedures shall be submitted to the Resident for review ten days prior to installation.

2. Be present during the installation for at least the first two VW piezometers.

3. Conduct the pre-installation and post-installation acceptance tests for at least the first two VW piezometers.

4. Confirm the factory calibration before installation of the piezometers.

5. Remain on site until the Resident approves that the Contractor is sufficiently skilled to install the piezometers without instruction from the Technical Representative.

6. Explain the calibration curves and/or equations for the VW piezometers to the Contractor and Resident, to ensure that the method of determining the pore water pressure is understood.

7. Be on site until the completion and acceptance by the Resident of the tasks outlined above and subsequently be available for consultation at all times for the duration of the contract.

VW piezometer cable. The length of piezometer cable shall be sufficient to extend from the installed locations to the instrumentation cabinet (location to be determined by Contractor), with a minimum additional length of 8 feet. Cables shall be clearly marked for positive identification.

Data acquisition system. The data acquisition system shall be designed such that vibrating wire transducers can be read directly. The system shall be designed by the same commercial source as the VW piezometers. The readout unit shall consist of one of the following or approved equal:

Geokon, Inc.	Model: GK-405
Sinco	Model: 52613500
RocTest, Inc.	Model: MB-6T

The connectors at the ends of the VW piezometer cables shall be compatible with the readout unit. The Contractor shall provide the manufacturer's warranty for the readout unit.

In the event that the data acquisition becomes damaged or inoperable, it shall be replaced by the Contractor within 2 working days at no additional cost to the Authority.

Instrumentation cabinets. The contractor shall supply up to two (2) instrumentation cabinets. The Instrumentation Cabinets shall be resistant to the infiltration of water and shall be mounted on a 3-inch O.D. galvanized steel post. The post shall be installed to a depth of 5 feet and shall be restrained from lateral movement. Alternate cabinet mounting methods may be used by the Contractor, as approved by the Resident, provided exposed piezometer cables are protected from damage with conduit.

639.03 Submittals

Within two weeks after the award of the contract, the Contractor shall submit to the Resident for approval: manufacturer's literature documenting the physical and mechanical properties of the VW piezometers (as a minimum those properties required by the specifications), and a list of similar projects where the VW piezometers have been installed. The Contractor shall allow a minimum of four weeks for the Resident to evaluate the material. Two weeks after contract award, the Contractor shall submit written documentation showing that the Technical Representative meets the qualifications of this Special Provision.

At least two weeks prior to the installation of the VW piezometers, the Contractor shall submit to the Resident for review details of the sequence and method of installation. Review by

the Resident shall not relieve the Contractor of his responsibility to install VW piezometers in accordance with this Special Provision.

The Contractor shall provide boring logs with piezometer installation details and field notes to the Authority within two (2) days of instrumentation installation. Excel spreadsheets for the reduction of the data shall also be provided by the Contractor within two (2) days of instrumentation installation. Spreadsheets shall include initial instrument readings and all information necessary for immediate use of the spreadsheets by the Authority.

639.04 Construction Requirements

VW piezometers. Two groups of two nested VW piezometers shall be installed as show on the Plans. The construction sequence for the VW piezometers shall be performed as detailed in the Construction Notes, included with the Plans. The installation procedure for the VW piezometers shall be as follows or as recommended by the Technical Representatives, and approved by the Resident.

A. The VW piezometers shall be installed prior to the placement of any fill materials.

B. Piezometer locations shall be marked on the working surface with stakes. The stakes marking the piezometer locations shall be clearly marked with some distinguishing feature to differentiate them from PV drain and Settlement Platform locations, as approved by the Resident.

C. Drill a 4.5-inch diameter borehole using schedule HW, flush joint casing to 2 feet below the desired bottom transducer elevation. Sampling shall be with 1-3/8-inch ID split-spoon sampler, driven with a 140-lb hammer falling a distance of 30 inches.

D. Piezometers installation sequence shall be from lowest in elevation to highest.

E. Flush hole with clean water.

F. Place bentonite pellets above the bottom of the hole to 1 foot below the bottom of the deepest transducer location.

G. Install the first transducer within a 2 foot column of filter sand per manufacturer's directions. At least 12 inches of sand shall be above the transducer.

H. Place a layer of bentonite pellets above the filter sand to 1 foot below the elevation of the second transducer.

I. Install the second transducer within a 2 foot column of filter sand per manufacturer's directions. At least 12 inches of sand shall be above the transducer.

J. Place a 2-foot layer of bentonite pellets above the filter sand.

K. Grout remainder of borehole with cement/bentonite grout.

L. Temporary casing is withdrawn during installation.

M. Cables are run by the Contractor in trench cut in subgrade. The trench shall be marked to avoid damage from installation of prefabricated vertical drains to the instrumentation cabinet.

N. The trench is filled with filter sand.

O. An additional 3 feet of cable (minimum) is required for within the instrumentation cabinets, each cable shall be clearly marked with the corresponding VW piezometer's identification number.

The location of each of the VW piezometers shall be installed as shown on the Plans unless otherwise approved by the Resident.

The Contractor is required to read the piezometers at the end of each working day, during filling and for a period of 10 working days after embankment construction. The piezometers shall be read once a week for the remainder of the preload time period of no less than 120 days. Within 24 hours of each reading the Contractor shall send the piezometer readings to the Geotechnical Engineer for review.

VW Piezometer cables, boxes, etc. which are damaged during construction operations shall be repaired by the Contractor per the Manufacturer's preferred method. No payment will be made for repair of damaged piezometer cable, boxes, etc.

Instrumentation cabinet. The Contractor shall determine the location of the instrumentation cabinets. The instrumentation cabinets shall be installed at locations which are accessible in all weather conditions and where there is little possibility of the instrumentation cabinet being damaged by construction operations. Alternate installation methods may be used by the Contractor, as approved by the Authority, provided exposed VW piezometers, cables, etc. are protected.

639.05 Method of Measurement

Instrumentation – Geotechnical shall be measured for payment as one lump sum per Contract, regardless of the number of instruments required.

639.06 Basis of payment

Instrumentation - Geotechnical will be paid for at the contract lump sum price, which shall be full compensation for all labor, materials, equipment, and incidentals required to install and monitor the instrumentation and associated facilities described in this Special Provision and shown on the Plans. Removal and replacement of instrumentation damaged by the Contractor shall be incidental to the work.

Payment will be made under:

Pay Item		Pay Unit
639.26	Instrumentation - Geotechnical	Lump Sum

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

(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 and stacking the sign panels, removing and resetting or disposing of the existing wood post and resetting the sign panels on a new wood post if required in the appropriate specified location. The Resident will determine if a new wood post is required.

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.

645.09 Basis of Payment

The following paragraphs are added:

The accepted signs Removed and Reset will be paid for at the Contract unit price each as specified. Such price will include removing, stacking, 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:

Pay Item		Pay Unit
645.109	Remove and Reset Sign	Each

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

(Regulatory, Warning and Bridge Number Signs, Type I - Supplied by Authority)

645.01 Description

The following paragraph is added:

This work shall consist of erecting Regulatory, Warning and Bridge Number Signs furnished by the Authority and supplying and erecting any necessary sign posts as shown on the Plans or as directed by the Resident.

645.022 Sign Layout Drawings

This subsection is deleted and replaced with the following:

645.025 Authority Supplied Signs

The Maine Turnpike Authority will supply the proposed sheet aluminum signs for this project. The Contractor shall be responsible for coordinating with the MTA Sign Shop, located along the Turnpike northbound at Mile point 58, to pick-up the signs and transport them to the job site.

645.08 Method of Measurement

This subsection is deleted and replaced with the following:

Regulatory, Warning and Bridge Number Signs, Type I shall be measured by the unit complete in place and accepted.

645.09 Basis of Payment

This subsection is deleted and replaced with the following:

The accepted Regulatory, Warning and Bridge Number Signs, Type I – Supplied by Authority will be paid for at the Contract unit price each. Such price shall be full compensation for erecting the sign panels and supplying and erecting the necessary sign posts, pick-up and transportation of the signs from the MTA Sign Shop to the job site, and all other labor, tools, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
645.272	Regulatory, Warning and Bridge Number Signs, Type I - Supplied by Authority	Each

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

(Removed and Reset Bridge Mounted Guide Sign to Ground Mounted)
(Remove and Reset Mainline Sign)

645.01 Description

The following paragraphs are added:

This work shall consist of removing the existing guide sign mounted to the Cummings Road bridge over the northbound lanes of the Maine Turnpike and ground mounting the sign on sign posts as shown on the Plans or as directed by the Resident.

This work shall also consist of removing and resetting the existing highway guide sign as shown on the Plans. The work includes the following: removal, resetting, modifying, furnishing, and disposal of concrete foundations, steel posts, wood posts, and breakaway foundations. Existing materials not reused shall be disposed of off the project site.

The signs shall remain visible to Turnpike drivers at all times unless other provisions have been approved.

645.021 Materials

The following paragraph is added:

All materials furnished to the project shall be new. New concrete foundations shall conform to the requirements of Section 626 and shall be in conformance with the Maine Department of Transportation Standard Details.

645.05 Signs

The following paragraphs are added:

The removal and resetting of the Bridge Mounted and Mainline Signs shall be completed in accordance with the details shown on the Plans. The Contractor shall keep all signs visible to Turnpike drivers accept for the period of time necessary to actually complete the relocation. The sign panel shall not be removed and relocated until after the proposed sign support system (foundation and posts) have been installed in the final location. One working day is allowed for each sign relocation.

All signs posts on breakaway foundations shall be installed in accordance with the Specifications for breakaway devices. Multipost sign shall be constructed with the required splice as in accordance with the Plans.

645.08 Method of Measurement

The following sentence is added:

Remove and Reset Bridge Mounted Guide Sign to Ground Mounted and Remove and Reset Mainline Sign shall be measured for payment per lump sum for each sign.

645.09 Basis of Payment

The payment for Remove and Reset Bridge Mounted Guide Sign to Ground Mounted and Remove and Reset Mainline Sign shall be at the Contract lump sum price for each sign. This payment shall be full compensation for furnishing all new materials, removing, modifying resetting existing material and signs, and all labor and equipment necessary to complete the installation in accordance with the details shown on the Plans. This may include furnishing and installing new materials such as structural steel, concrete foundations, and single and multipole breakaway devices. Compensation for the excavation and backfill for the concrete foundation shall be included in this item.

Payment will be made under:

Pay Item		Pay Unit
645.503	Remove and Reset Bridge Mounted Guide Sign to Ground Mounted	Lump Sum
645.504	Remove and Reset Mainline Sign	Lump Sum

SPECIAL PROVISION

SECTION 646

SETTLEMENT PLATFORMS

(Geotechnical)

646.01 Description

This work shall consist of installing equipment to facilitate monitoring the performance of the Embankment Preload. This work includes, furnishing, fabricating, installing and maintaining settlement platforms and protective barriers, and extending the settlement platforms up through the Embankment Preload fill as the fill is placed. The Contractor shall cooperate with the Engineer and the Authority's authorized representative as necessary for the instrumentation to be successfully installed and measured.

646.02 Materials

All materials are to be provided by the Contractor unless specifically stated that an item will be provided by the Authority, or the Engineer's authorized representative.

Settlement Platforms and Protective Barriers. Settlement platforms shall consist of 5-ft. long sections of 2-in. dia. black iron pipe, threaded at both ends (one pipe coupling for each length), and attached at the bottom to a 2-ft. by 2-ft. by ¾-in. thick pressure treated plywood base using a black iron floor flange, as shown on the detail sheet. A threaded black iron cap shall be provided at the top of the settlement platform. Protective barriers shall be fabricated from sound lumber.

646.03 Construction Requirements

Settlement Platforms and Protective Barriers. Settlement platforms shall be furnished, fabricated and installed by the Contractor as shown on the Plans. Protective barriers shall be furnished, fabricated and installed by means proposed by the Contractor with approval by the Engineer. The Contractor shall provide all labor, equipment and materials necessary to extend the settlement platforms up through the Embankment Preload fill as the fill is placed.

The Contractor shall construct and maintain wooden barriers around each of the settlement platforms to provide protection to the settlement platforms during construction.

Fill Placement and Compaction Near Settlement Platforms. Fill placement and compaction within 3 ft. of riser pipes shall be accomplished using approved hand-operated power compactors.

It is brought to the Contractor's attention that data will be obtained from the settlement platform devices during construction to monitor embankment settlement. Therefore, the Contractor shall take all necessary precautions to prevent damage, disturbance or movement of any settlement platform, once installed. The Contractor shall immediately notify the Engineer and the Authority of any settlement platform damage, disturbance or movement. The Contractor will be required to halt all work in the area, and immediately repair, reset, resurvey, or replace damaged,

disturbed or moved settlement platform as directed by the Engineer.

It is brought to the Contractor's attention that if data obtained from settlement platforms indicate signs of embankment instability, construction may be halted and placement of additional embankment material suspended. The Engineer may at such time request additional corrective actions, as necessary.

Survey of settlement platforms will be accomplished by the Authority or by the Authority's authorized representative at intervals stated herein and as deemed necessary by the Engineer. The Contractor shall in no way interfere with or delay such activities.

The Contractor shall be advised that the top of the settlement platforms will be surveyed by the Authority's authorized representative: 1) after initial placement of the settlement platforms prior to placement of fill; 2) before and after additional sections of riser pipe are added to raise the settlement platforms; 3) any time that the settlement platforms are bumped, damaged, vandalized or otherwise altered; 4) at least weekly during placement of fill and at least twice a month during other periods; and 5) at any other times deemed necessary by the Engineer. The Contractor shall cooperate with the Authority's authorized representative to allow these measurements to be made, and coordinate their schedule accordingly.

Sequence for Installation of Settlement Platforms. The following sequence is provided for the Contractor's planning purposes. The Contractor shall be advised that the following information is approximate, and may vary.

1. Clear and grub (by Contractor).
2. Place aggregate subbase course gravel on natural subgrade (by Contractor).
3. Install prefabricated vertical drains (by Contractor).
4. Place settlement platforms on subbase course gravel (by Contractor). Survey settlement platforms (by Authority's authorized representative).
5. Extend settlement platforms (by Contractor). Survey settlement platforms before and after extending (by Authority's authorized representative).

646.04 Method of Measurement

Settlement platforms provided in accordance with the plans and specifications will be measured by the lump sum.

646.05 Basis of Payment

Settlement platforms will be paid for at the contract lump sum price which shall be full compensation for all labor, materials, and equipment required to install the settlement platforms described in this section and shown on the plans.

Removal and replacement of settlement platforms damaged by the Contractor shall be incidental to the work. Time required for the Contractor to allow survey of settlement platforms by the Authority or by the Authority's authorized representative shall be incidental to the work.

Pay Item	Pay Unit
646.091 Settlement Platforms	Lump Sum

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Specific Project Maintenance of Traffic Requirements)

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

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

Cummings Road Traffic Control Requirements

Maintenance of traffic plans have been developed for the work on the Cummings Road bridge and approach roadways. Two lanes of traffic (one lane in each direction) shall be maintained at all times with the exception of the hours between 7:00 p.m and 7:00 a.m. Sunday through Thursday nights. During this overnight period, traffic may be reduced to a single lane of alternating one-way traffic.

If approved by the Resident, Cummings Road may be reduced to a single lane of alternating one-way traffic on Saturdays and Sunday from 7 a.m. until 7 p.m. with the exception of weekends between Thanksgiving and Christmas.

A single weekend closure of Cummings Road, with an off-site detour for the purpose of placing and curing the bridge deck closure joint, is permitted as defined in Subsection 107.4.6 Prosecution of Work.

In addition, with approval by the Resident, Cummings Road between STA 64+50 and 77+00 may be closed to traffic from 10:00 p.m. until 5:30 a.m. to accommodate specific construction operations that promote safety of the traveling public, reduce traffic impacts along the Turnpike, and/or provide a better final product. The Contractor shall provide a written request to the Authority 14 days prior to a closure to allow the Authority to consider the request and coordinate with municipalities and local businesses. If the request is approved, the Contractor shall provide two portable changeable message signs along Cummings Road adjacent to the bridge notifying the public of the upcoming closure seven (7) days ahead of the closure. The detour shown on the Plans shall be installed to accommodate traffic during this road closure and covered or removed immediately following the road closure. The Contractor will reimburse the Authority at the rate of $2,500.00 for each one-hour period, or portion thereof, that the bridge remains closed to traffic after 7 a.m. Total penalty shall be deducted from the next pay estimate.

Cummings Road and Payne Road Intersection Traffic Control Requirements

All lanes at all legs of the intersection shall be maintained at all times with the exception of between 9:00 p.m. and 6:00 a.m. Sunday through Thursday nights. During this overnight period, southbound Cummings Rd traffic may be reduced from four lanes to two lanes provided right and left turn movements onto Payne Rd are maintained.

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 and ramps. Operations are allowed as outlined below:

Short term shoulder closures with drums and long-term shoulder closures with concrete barrier are permitted on the Exit 45 NB off and SB on ramps any time.

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. 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.

Erection and removal of bridge beams over the SB on ramp traffic may occur Sunday through Thursday nights from 10:00 p.m. until 5:00 a.m.

Roadway and ramp closures will not be permitted on holiday weekends or any weekend between Thanksgiving and New Year's Day,

Mainline Northbound January 1 to June 30 September 1 to December 31 (Does not account for holiday restrictions)					
		Erection and Removal of Bridge Beams	**Equipment Moves**	**Temporary Lane Closures**	**Temporary Shoulder Closures**
Days of Week:	Monday through Friday				
Time of Day:	9:00 a.m. to 3:00 p.m.				Allowed
Days of Week:	Sunday night through Friday morning				
Time of Day:	7:00 p.m. to 6:00 a.m. following day		Allowed	Allowed	Allowed
Time of Day:	10:00 p.m. to 5:00 a.m. following day	Allowed	Allowed	Allowed	Allowed

Mainline Southbound January 1 to June 30 September 1 to December 31 (Does not account for holiday restrictions)					
		Erection and Removal of Bridge Beams	**Equipment Moves**	**Temporary Lane Closures**	**Temporary Shoulder Closures**
Days of Week:	Monday through Friday				
Time of Day:	9:00 a.m. to 3:00 p.m.				Allowed
Days of Week:	Sunday night through Friday morning				
Time of Day:	7:00 p.m. to 7:00 a.m. following day		Allowed	Allowed	Allowed
Time of Day:	10:00 p.m. to 5:00 a.m. following day	Allowed	Allowed	Allowed	Allowed

Mainline Northbound July 1 to August 31 (Does not account for holiday restrictions)					
		Erection and Removal of Bridge Beams	**Equipment Moves**	**Temporary Lane Closures**	**Temporary Shoulder Closures**
Days of Week:	Monday through Friday				
Time of Day:	9:00 a.m. to 3:00 p.m.				Allowed
Days of Week:	Sunday night through Friday morning				
Time of Day:	9:00 p.m. to 6:00 a.m. following day		Allowed	Allowed	Allowed
Time of Day:	10:00 p.m. to 5:00 a.m. following day	Allowed	Allowed	Allowed	Allowed

Mainline Southbound July 1 to August 31 (Does not account for holiday restrictions)					
		Erection and Removal of Bridge Beams	**Equipment Moves**	**Temporary Lane Closures**	**Temporary Shoulder Closures**
Days of Week:	Monday through Friday				
Time of Day:	9:00 a.m. to 3:00 p.m.				Allowed
Days of Week:	Sunday night through Friday morning				
Time of Day:	8:00 p.m. to 7:00 a.m. following day		Allowed	Allowed	Allowed
Time of Day:	10:00 p.m. to 5:00 a.m. following day	Allowed	Allowed	Allowed	Allowed

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Flaggers)

The following section of the Supplemental Specification Section 652 have been revised as follows:

Section 652.2.4 Other Devices paragraph five is deleted and replaced with:

STOP/SLOW paddles shall be the primary and preferred hand-signaling device. Flags shall be limited to emergencies. The paddle shall have an octagonal shape and be at least 18 inches wide with letters at least 6 inches high and should be fabricated from light semi-rigid material. All STOP/SLOW Paddles

Section 652.4 Flaggers Last sentence in first paragraph is deleted and replaced with:

Only flashing SLOW/STOP paddles shall be used and the flagger station shall be illuminated to assure visibility in accordance with 652.6.2.

Add:

Flaggers shall not stop traffic on Turnpike mainline or interchange ramps. Only State Police are allowed to stop traffic on mainline or interchange ramps.

652.7 Method of Measurement Add

Flaggers shall only be measured for payment when utilized on Cummings Road when the contractor is actively working along Cummings Road. Flaggers used for the convenience of the Contractor, will not be measured for payment and shall be incidental to the various pay items.

SPECIAL PROVISION

SECTION 652

MAINTENANCE 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:

Pay Item		Pay Unit
652.45	Truck Mounted Attenuator	Calendar Day

SPECIAL PROVISION

SECTION 652

MAINTENANCE 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 Materials

Automated 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 thresh hold.

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.

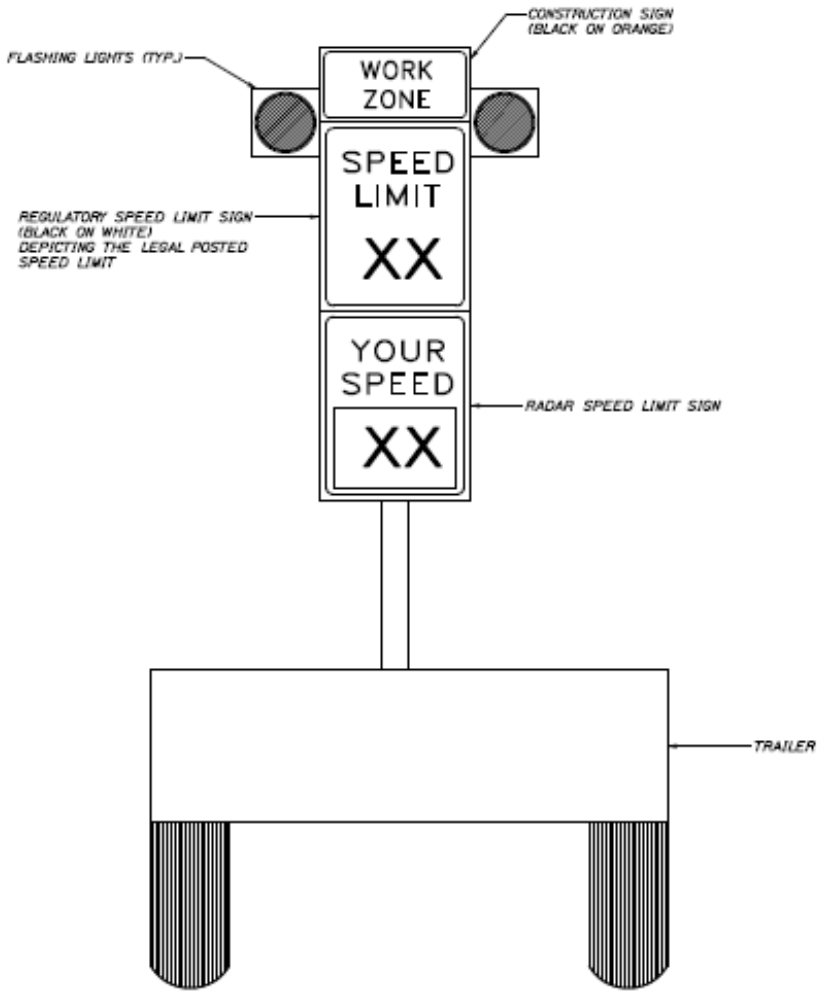
652.7 Method of Measurement

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.

Pay Item		Pay Unit
652.451	Automated Trailer Mounted Speed Limit Sign	Calendar Day
652.452	Automated Trailer Mounted Speed Limit Sign	Each



Date: 2/13/2018

Filename: Trailer Mounted Speed Limit.dgn

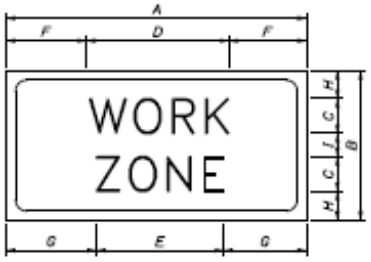
MAINE TURNPIKE

HNTB

FEBRUARY 2018

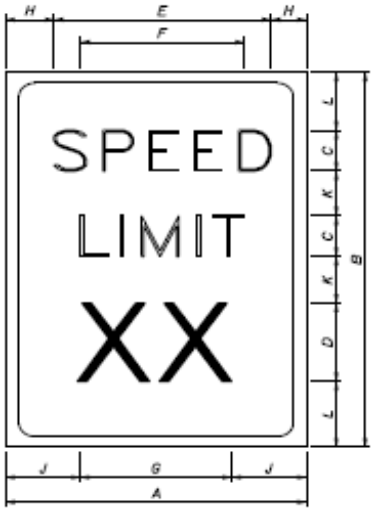
AUTOMATED TRAILER MOUNTED
SPEED LIMIT SIGN

1 OF 2



SIGN #1

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



SIGN #2

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

	DIMENSIONS (INCHES) / LETTER FONTS											
	A	B	C	D	E	F	G	H	I	J	K	L
#1	48	20	5D	18⅛	16⅝	14⅞	15⅝	4	2	N/A	N/A	N/A
#2	48	60	8E	16E	38¼	29¼	29½	4½	9⅜	9¼	8	6

Date: 2/13/2018

Filename: Trailer Mounted Speed Limit.dgn

MAINE TURNPIKE

HNTB

FEBRUARY 2018

TRAILER MOUNTED CONSTRUCTION ZONE
SPEED LIMIT SIGN

2 OF 2

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.

652.3.4 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.

652.7 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.

652.8 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.

Pay Item		Pay Unit
652.46	Temporary Portable Rumble Strip	Unit

SPECIAL PROVISION

SECTION 719

SIGNING MATERIAL

Section 719.01 Reflective Sheeting

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

Retroreflective sheeting for signs shall meet at a minimum the requirements for, ASTM 4956 – Type 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.

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART III – APPENDICES

APPENDIX A
MAINEDEP ENVIRONMENTAL PERMIT

Maine Turnpike Authority
2360 Congress Street
Portland, Maine 04102

July 10, 2018

Maine Department of Environmental Protection
312 Canco Road
Portland, ME 04103

Attention: Alison Sirois

Re: Permit Application
Cummings Road Bridge Replacement Project

Dear Alison:

Please find enclosed the Maine Department of Environmental Protection, NRPA PBR application for the above referenced project. Included with this cover letter are:

- A check in the amount of $78.00 for the NRPA PBR Application fee;
- A Completed NRPA PBR application form; and
- Supporting narratives, attachments, maps, plan, photographs and attachments.

Thank you for your attention to MTA's application. Please do not hesitate to contact me at 482-8348 or at rnorwood@maineturnpike.com with any questions that you may have regarding this project.

Sincerely,

Maine Authority
Ralph Norwood IV, P.E.
Project Manager

Maine Turnpike Authority
Cummings Road Bridge Underpass Project

Maine Department of Environmental Protection
Natural Resources Protection Act, Chapter 305, Permit by Rule Notification

Mile Marker 44.6
Scarborough, Maine

JULY 9, 2018

TABLE OF CONTENTS

Section

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:	Maine Turnpike Authority Ralph Norwood, IV	**Name:**	
Mailing Address:	2360 Congress Street	**Mailing Address:**	
Town:	Portland	**Town:**	
State and Zip Code:	ME 04102	**State and Zip Code:**	
Daytime Phone #:	(207) 871-7771 ext. 348	**Daytime Phone #:**	
Email Address:	RNorwood@mainturnpike.com	**Email Address:**	

PROJECT INFORMATION

Part of a larger project? (check one):	☐ Yes ☒ No	**After the Fact? (check one):**	☐ Yes ☒ No	**Project involves work below mean low water? (check one):**	☐ Yes ☒ No	**Name of waterbody:**	NA
Project Town:	Scarborough	**Project Location (Address):**	Cummings Road I-95 Bridge Underpass			**Map & Lot Number:**	Map R037, Lot 61
Brief Project Description:	SEE ATTACHED: Work to address functional and geometric deficiencies in the existing bridge underpass crossing of I-95 (begin February 2019 and continue non-stop through November 2020)						
Brief Directions to Site:	I-95, Mile Marker 44.6, MTA bridge No. 0276						

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

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

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:	Ralph Norwood	**Date:**	7-9-18

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.#		Staff	Staff	
PBR #	FP	Date	Acc. Date	Def. Date	After Photos

SUPPLEMENTAL INFORMATION — Project Description

Introduction

The Applicant, Maine Turnpike Authority (MTA), is proposing the Cummings Road Bridge Underpass Project (Project) located in Scarborough, Maine (see Attachment 1: Project Location Map). The proposed Project involves work to address deteriorating conditions of the superstructure, abutments, piers and drainage troughs of the existing bridge crossings over the turnpike. Built in 1956, the existing bridge is a two-lane, four-span continuous bridge with an overall length of 280 feet and an out-to-out deck width of 28.67 feet. The bridge is functionally obsolete due to substandard under clearance, horizontal clearance and bridge roadway width and currently does not provide provisions for pedestrians and bicyclists. Numerous repairs have been made to the structure between 1990 and 2016, and a thorough structural evaluation was completed in 2017. Although the bridge superstructure is in satisfactory condition, the decks are exhibiting signs of deterioration as evidenced by cracking and efflorescence at multiple locations, rust and corrosion throughout structural steel components, paint loss, and the steel rocker bearings are in poor condition. Abutments, wingwalls, backwalls and piers are in good to fair condition, but experiencing widespread map-cracking, general cracking, spalling, and pop-outs.

The purpose of the Project is to correct the geometric deficiencies, address structural deficiencies, and provide accommodations for potential future widening of the I-95 corridor. Major Project components include replacement of the bridge and realignment of the connecting roadways (see Attachment 2: Design Plans and Project Impacts). The bridge and roadway will be widened to accommodate four, 11-foot lanes and two 5-foot shoulders, for an overall width of 54-feet; which could accommodate safe access for bicyclists and pedestrians. The centerline will be situated 24.5 feet west of the existing roadway centerline. The bridge and road profile will be raised by 3.5 feet to provide a 16.5-foot minimum clearance of the turnpike. Impact areas of the primary work components are shown in Attachment 2.

Bridge replacement is necessary to extend the service life of the structure, eliminate identified maintenance issues, and to address the substandard under clearance, horizontal clearance, and bridge roadway width which would prohibit future widening of the Turnpike. The only project alternative was the “no action” alternative, which would not meet this project purpose and need, and was therefore eliminated.

Identified Environmental Concerns

A formal wetland and stream delineation, assessment of the site for potential significant wildlife habitat such as vernal pools, and an environmental data review, were performed by NewEarth Ecological Associates, LLC in 2017 to identify potential protected resources in the Project area. Much of the proposed work will take place within the existing roadway and bridge superstructure and involve no new ground disturbance. However, adjustments to the roadway approaching the reconstructed bridge will be necessary and will involve some temporary and permanent environmental impacts; some of which will occur within protected resources.

Through a desktop and onsite review of environmental conditions, careful design planning, and collaboration with environmental agencies, the Project was designed to minimize the impact to

environmental resources and is expected to result in the following (see Attachment 2: Design Plans and Project Impacts):

Stormwater Impacts

67,104 square feet (sq ft) [1.54 acres] of disturbance (48,446 sq ft [1.11 acres] of which is new impervious surface). 9,236 (0.21 acre) of existing impervious area will be removed. This is covered under the June 2017 Maine Department of Environmental Protection/Maine Department of Transportation/MTA Stormwater Memorandum of Agreement.

Wetland Impacts

14,904 sq ft (0.342 acre) of total wetland impact (6,890 sq ft [0.158 acre] permanent; 8,014 sq ft [0.184 acre] temporary), consisting of palustrine forest (PFO), palustrine scrub-shrub (PSS), and maintained palustrine emergent (PEM) wetlands along the Cummings Road embankment toe of slope. None of the wetlands are wetlands of special significance. Areas temporarily impacted will be stabilized and left to revert to vegetated wetland communities; those within the MTA right-of way will be periodically mowed/maintained. More specifically, wetland impacts include the following:

- 5,703 sq ft (0.13 acre) of permanent loss of PFO wetland due to filling/grubbing
- 73 sq ft (0.002 acre) of permanent loss of PSS due to filling/grubbing
- 1,114 sq ft (0.03 acre) of permanent loss of PEM wetland due to filling/grubbing

6,890 sq ft permanent impact

- 2,133 sq ft (0.05 acre) of conversion of PFO wetland – will revert to maintained PSS-PEM
- 1,589 sq ft (0.04) temporary alteration of PSS – will revert to maintained PSS-PEM
- 4,291 sq ft (0.10) temporary alteration of PEM – will revert to maintained PSS-PEM

8,014 sq ft temporary impact

Ephemeral Drainage Impacts

550 linear feet of relocation of an ephemeral stormwater drainage feature. Based on a professional wetland/stream delineation performed by NewEarth Ecological Consulting, LLC in 2017, the feature did not meet the criteria for definition of a jurisdictional stream per Maine's NRPA. A subsequent site visit with Audie Arb and Bob Green of the MaineDEP and Jay Clement of the USACE on October 27, 2017, confirmed the feature to be a non-jurisdictional stormwater drainage (see Attachment 5: Agency Coordination).

Vegetation Clearing

67,107 sq ft (1.54 ac) of clearing is proposed and includes 58,349 sq ft (1.34 ac) of upland forest, and to a lesser extent shrub and herb communities, and 7,836 sq ft (0.18 ac) of forested wetland. All vegetation clearing will take place in late winter – early spring to avoid key nesting periods for bats and other wildlife.

Temporary impacts are associated with areas needed by contractors for equipment access, staging and laydown. Undeveloped areas will be seeded and allowed to revert to vegetated communities; those within the MTA right-of way will be periodically mowed/maintained. Measures will be taken to minimize secondary impacts such as erosion and siltation.

Much of the proposed work will take place within the existing MTA right-of way. However, permanent and temporary right of way impacts are anticipated to two properties along the west side of the project (see Attachment 2: Design Plans and Project Impacts). Temporary impacts to the properties at the northeast and southwest of the Project may also be needed and will be determined during final design.

Coordination with Maine Department of Inland Fisheries and Wildlife (MDIFW) has taken place and is provided in Attachment 5. The coordination did not reveal any concerns regarding Significant Wildlife Habitat (SWH) protected under Maine's Natural Resource Protection Act (NRPA), within the proposed Project site (see Supplemental Information, Block 26 for a summary of coordination efforts). No work will be performed within Federal Emergency Management Agency (FEMA) designated floodplain areas.

Avoidance and Minimization

The Project is being designed and will be conducted in accordance with the standards set forth in Maine DEP Chapter 305: Permit by Rule for State Transportation Facility activities to minimize environmental impacts from the Project.

Impacts were further reduced by minimizing the Project footprint to the greatest extent possible per safety and design specifications (see Attachment 2: Design Plans and Project Impacts); resulting in a significant reduction in freshwater wetland impacts from the anticipated 20,435 sq ft to 14,904 sq ft. Specific adjustments included use of side slopes of 2:1 and guardrails along the turnpike, instead of a more gradual slope with a wider base, to minimize impacts to wetlands located along the toe of slope.

Minimization efforts focused primarily on limiting the necessary raise in vertical profile, which is required to accommodate deeper beams (longer bridge spans) and the currently substandard under clearance. Profile grades generally match existing conditions. However, the bridge girders are recommended to be proportioned with a shallow web, near AASHTO minimum recommendations, to also alleviate unnecessary profile elevation increases.

To help limit lateral embankment impacts, side slopes are generally provided at 2H:1V, which is the steepest feasible sides slope without the use of slope reinforcement or riprap. Due to the need for geofoam within the embankments, the use of slope reinforcement or riprap would require an increased earthen cover above the geofoam, which would result in deeper excavations and widened impacts to offset settlement concerns.

Construction Timing

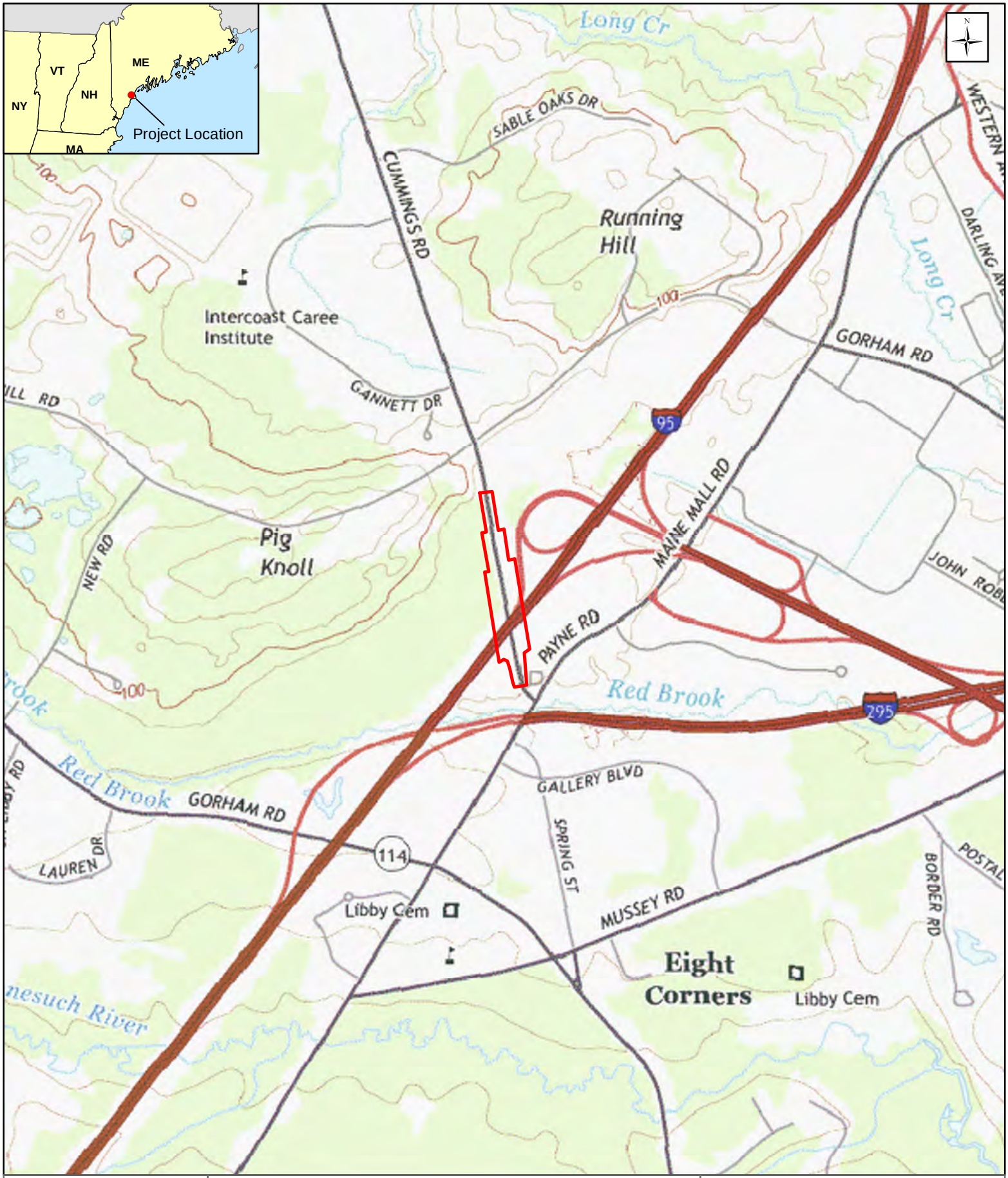
The construction contract is anticipated to be awarded in November 2018. On-site construction activities would begin in February 2019 and would continue through November 2020 without any shut-down or dormant periods; additional minor efforts (e.g., final seeding and pavement

markings) may occur in the early spring of 2021. Work on the western half of the new bridge is anticipated to occur in 2019, demolition of the existing structure is anticipated to occur over the winter of 2019-2020, and construction of the eastern half of the new bridge is anticipated to occur in 2020.

The following is an estimated/approximate sequence of work. The contractor is ultimately responsible for developing a schedule that meets their desired workflow while adhering to project environmental permits and contract completion dates.

1. Clear the site of trees, brush, and vegetation – February to March 2019
2. Phase I Construction, West Half of the Bridge – March 2019 to October 2019
    a. Ground Improvement Measures – March 2019 to July 2019
    b. Construct Substructure Units – April 2019 to June 2019
    c. Construct Superstructure – June 2019 to September 2019
    d. Construct Approach Roadway Embankments – May 2019 to October 2019
3. Existing Bridge Demolition – November 2019 to March 2020
4. Phase II Construction, East Half of the Bridge – April 2020 to October 2020
    a. Construct Substructure Units – April 2020 to June 2020
    b. Construct Superstructure – June 2020 to September 2020
    c. Construct Approach Roadway Embankments – May 2020 to October 2020
5. Project Cleanup, Demobilization, and Revegetation – November 2020 to June 2021
6. Project Completion – June 2021

ATTACHMENT 1 Project Location Map



Prepared For: HNTB

Prepared By: NewEarth ECOLOGICAL CONSULTING, LLC

Legend

Estimated Project Boundary

0 500 1,000 2,000 3,000 Feet

Figure 1. Site Location and Topography

Cummings Road Bridge Underpass Replacement Project
South Portland, Maine

Source: USGS 2014

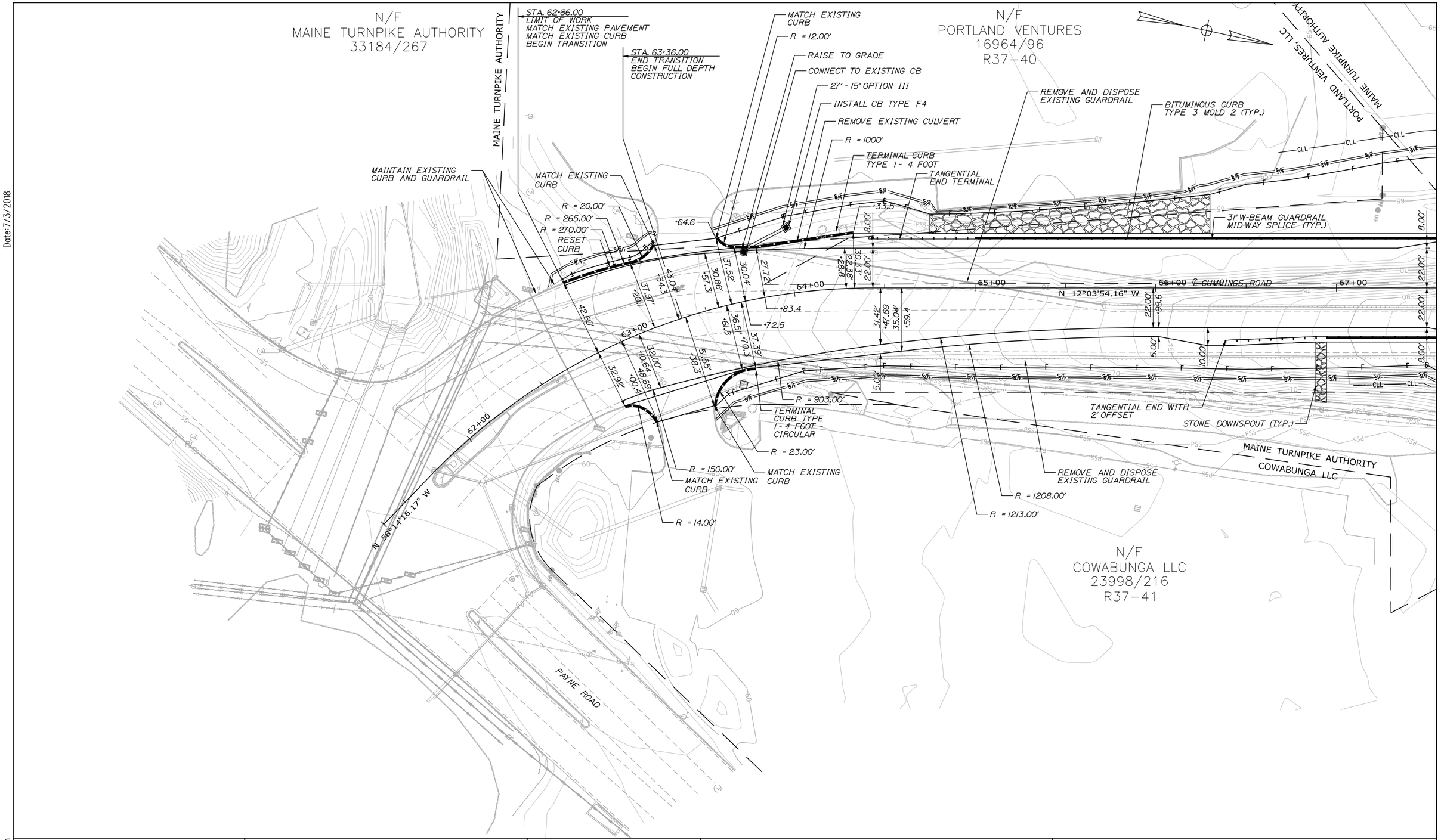
Date: 7/17/2017

ATTACHMENT 2 Design Plans, Cross-sections and Project Impacts

As shown on the attached design plans and cross-sections, the primary activities for the Cummings Road Bridge Underpass Project include:

- Removal of the existing two lane, four span steel girder structure measuring approximately 28.67-ft wide and 280-ft long.
- Construction of a new four lane, three span steel girder structure measuring approximately 57-ft wide and 433-ft long.
- Roadway embankment widening with the use of light-weight, expanded polystyrene fill (geofoam) with an approximate 30-ft width and 1,150-ft length.
- Roadway reconstruction along the existing embankment with an approximate 30-ft width and 1,150-ft length.
- Installation of new guardrail and curb within the roadway limits.
- Installation of four stone ditch downspouts along the roadway sideslopes.
- Relocation of approximately 700-ft of a roadside ditch.
- Installation of a new catch basin and 26-ft of 15” HDPE drain pipe connecting to an existing catch basin with a modified rim elevation.
- Reconfiguration of approximately 600-ft of roadside ditches along I-95.
- Temporary pavement widening on I-95 and Cummings Rd for maintaining traffic during construction.
- Construction of three paved driveway entrance aprons.

Date:7/3/2018



Filename: 017_HDPlan_01.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

PLAN 1

SHEET NUMBER: PL-01

CONTRACT:2018.09

17 OF 101

Date:7/3/2018

N/F
BLUESKY HOLDINGS INC.
32061/300
R37-66

N/F
HARYY & MARGARET WHITE
6323/295
R37-65

N/F
JPLC ENTERPRISES
13923/273
R37-43

℄ CUMMINGS RD. STA. 70+00.00 =
℄ MAINE TURNPIKE STA. 2207+60.01

2205+00

2206+00

2207+00

2208+00

2209+00

2210+00

SOUTHBOUND

NORTHBOUND

MAINE TURNPIKE ℄

PORTLAND MAINE TURNPIKE

MAINE TURNPIKE AUTHORITY

HARRY & MARGARET A WHITE

40°41'12.53"

N 12°03'54.16" W

N 37°14'53.31" E

℄ CUMMINGS ROAD

EQUALS 2207+93.10
EQUALS 2207+93.23

2208+66.30
87.89' LT
Elev. = 65.43

2208+00
87.89' LT
Elev. = 63.75

REMOVE AND RESET FENCING FOR SWALE CONSTRUCTION

STONE DOWNSPOUT (TYP.)

MATCH INTO EXISTING RIPRAP SWALE

APPROACH SLAB (TYP.)

BRIDGE TRANSITION TYPE III (TYP.)

REMOVE AND DISPOSE EXISTING GUARDRAIL

BITUMINOUS CURB TYPE 3 MOLD 2 (TYP.)

31" W-BEAM GUARDRAIL MID-WAY SPLICE (TYP.)

REMOVE AND DISPOSE EXISTING GUARDRAIL

EXIT 45 SB ON RAMP

8.00'

22.00'

67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00

SPAN 1 = 172'-0" SPAN 2 = 107'-0" SPAN 3 = 154'-0"

℄ BRG. ABUT. 1
STA. 68+28.00

℄ BRG. PIER 1
STA. 70+00.00

℄ BRG. PIER 2
STA. 71+07.00

℄ BRG. ABUT. 2
STA. 72+61.00

Filename: 018_HDPlan_02.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

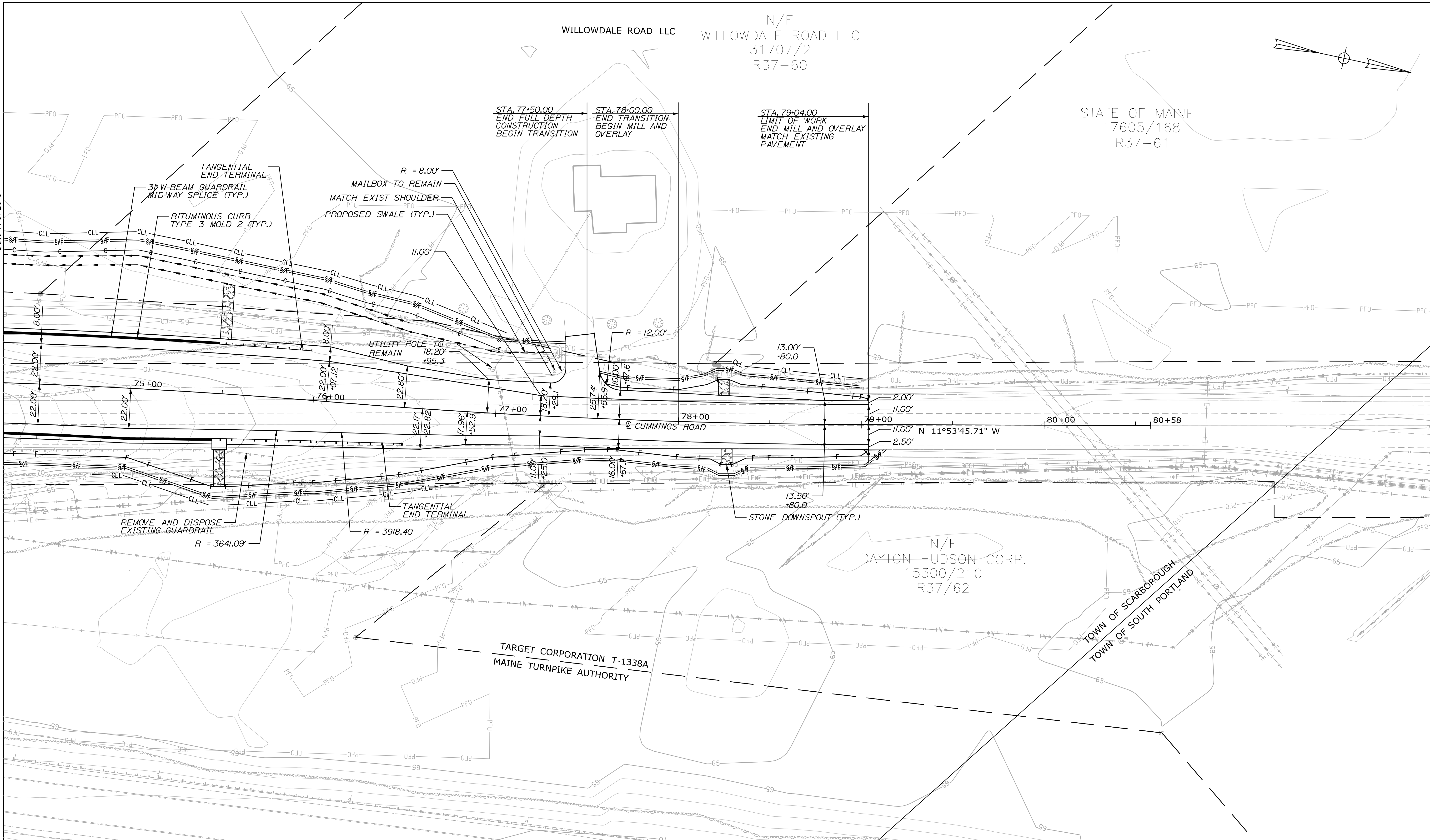
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

PLAN 2

SHEET NUMBER: PL-02

CONTRACT:2018.09



WILLOWDALE ROAD LLC
N/F
WILLOWDALE ROAD LLC
31707/2
R37-60
STATE OF MAINE
17605/168
R37-61
STA. 77+50.00
END FULL DEPTH
CONSTRUCTION
BEGIN TRANSITION
STA. 78+00.00
END TRANSITION
BEGIN MILL AND
OVERLAY
STA. 79+04.00
LIMIT OF WORK
END MILL AND OVERLAY
MATCH EXISTING
PAVEMENT
TANGENTIAL
END TERMINAL
31" W-BEAM GUARDRAIL
MID-WAY SPLICE (TYP.)
BITUMINOUS CURB
TYPE 3 MOLD 2 (TYP.)
R = 8.00'
MAILBOX TO REMAIN
MATCH EXIST SHOULDER
PROPOSED SWALE (TYP.)
UTILITY POLE TO
REMAIN
R = 12.00'
℄ CUMMINGS ROAD
N 11°53'45.71" W
75+00
76+00
77+00
78+00
79+00
80+00
80+58
TANGENTIAL
END TERMINAL
REMOVE AND DISPOSE
EXISTING GUARDRAIL
R = 3641.09'
R = 3918.40
STONE DOWNSPOUT (TYP.)
N/F
DAYTON HUDSON CORP.
15300/210
R37/62
TARGET CORPORATION T-1338A
MAINE TURNPIKE AUTHORITY
TOWN OF SCARBOROUGH
TOWN OF SOUTH PORTLAND

Date: 7/3/2018

Filename: 019_HDPlan_03.dgn

Scale: 25 0 25 50

Scale of Feet

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

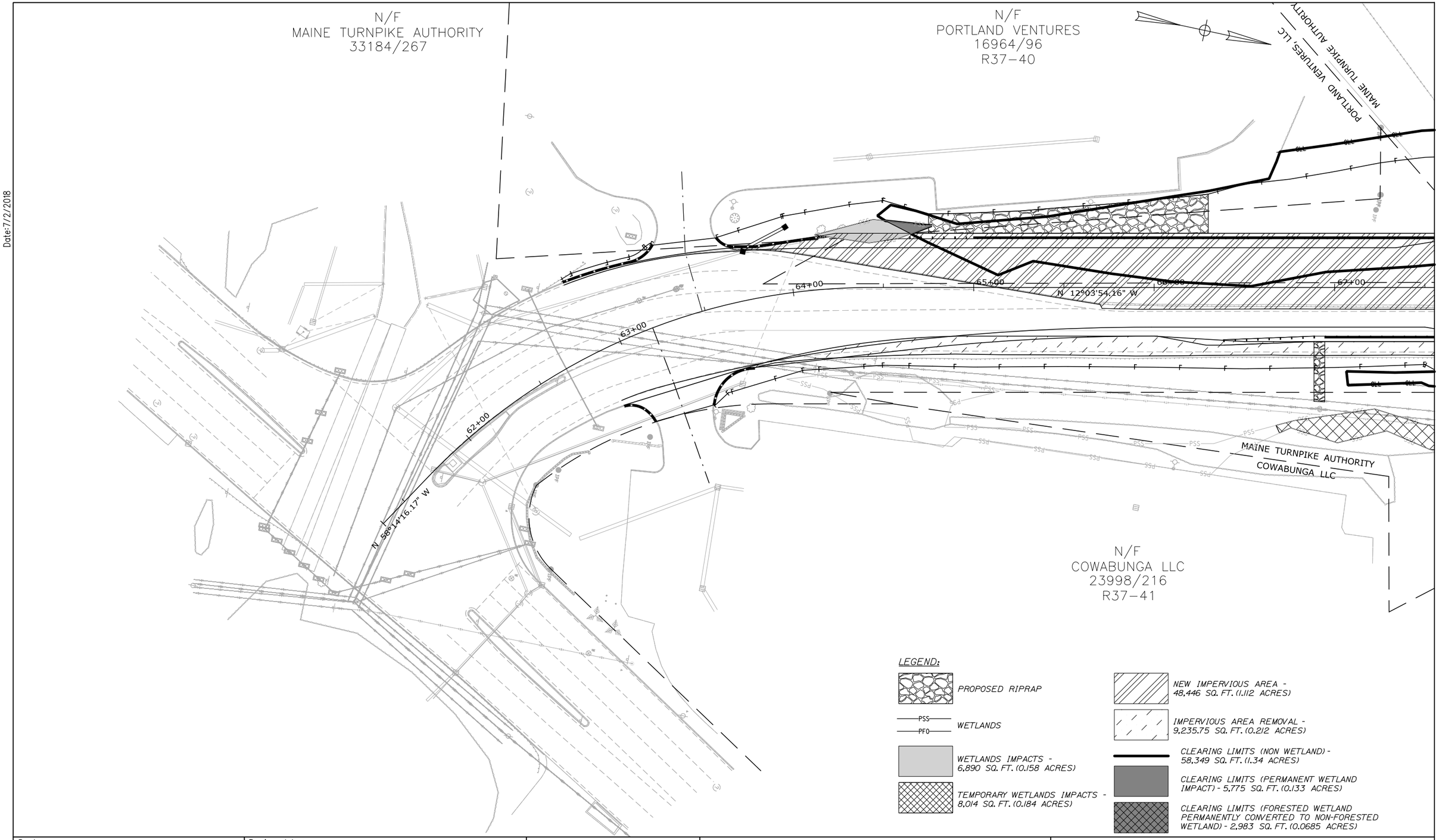
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

PLAN 3

SHEET NUMBER: PL-03

CONTRACT: 2018.09

Date:7/2/2018



LEGEND:

- *PROPOSED RIPRAP*
- PSS / PFO — *WETLANDS*
- *WETLANDS IMPACTS - 6,890 SQ. FT. (0.158 ACRES)*
- *TEMPORARY WETLANDS IMPACTS - 8,014 SQ. FT. (0.184 ACRES)*
- *NEW IMPERVIOUS AREA - 48,446 SQ. FT. (1.112 ACRES)*
- *IMPERVIOUS AREA REMOVAL - 9,235.75 SQ. FT. (0.212 ACRES)*
- *CLEARING LIMITS (NON WETLAND) - 58,349 SQ. FT. (1.34 ACRES)*
- *CLEARING LIMITS (PERMANENT WETLAND IMPACT) - 5,775 SQ. FT. (0.133 ACRES)*
- *CLEARING LIMITS (FORESTED WETLAND PERMANENTLY CONVERTED TO NON-FORESTED WETLAND) - 2,983 SQ. FT. (0.0685 ACRES)*

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

ENVIRONMENTAL IMPACTS PLAN 1

SHEET NUMBER: EP-01

CONTRACT:2018.09

Filename: 0XX_Env_01.dgn

Date:7/2/2018

N/F
BLUESKY HOLDINGS INC.
32061/300
R37-66

N/F
HARYY & MARGARET WHITE
6323/295
R37-65

N/F
JPLC ENTERPRISES
13923/273
R37-43

PORTLAND MAINE TURNPIKE

MAINE TURNPIKE AUTHORITY

HARRY J & MARGARET A WHITE

2205+00

2206+00

2207+00

2208+00

2209+00

67+00

68+00

69+00

70+00

71+00

72+00

73+00

74+00

N 12°03'54.16" W

N 37°14'33.31" E

EQN BK 2207+93.10
EQN AHD 2207+93.23

LEGEND:

- *PROPOSED RIPRAP*
- PSS / PFO — *WETLANDS*
- *WETLANDS IMPACTS - 6,890 SQ. FT. (0.158 ACRES)*
- *TEMPORARY WETLANDS IMPACTS - 8,014 SQ. FT. (0.184 ACRES)*
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Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

ENVIRONMENTAL IMPACTS PLAN 2

SHEET NUMBER: EP-02

CONTRACT:2018.09

Filename: 0XX_Env_02.dgn

WILLOWDALE ROAD LLC

N/F
WILLOWDALE ROAD LLC
31707/2
R37-60

STATE OF MAINE
17605/168
R37-61

N/F
DAYTON HUDSON CORP.
15300/210
R37/62

TOWN OF SCARBOROUGH
TOWN OF SOUTH PORTLAND

TARGET CORPORATION T-1338A
MAINE TURNPIKE AUTHORITY

75+00
76+00
77+00
78+00
79+00
80+00
80+58
N 11°53'45.71" W

LEGEND:

- PROPOSED RIPRAP
- PSS / PFO — WETLANDS
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Date:7/2/2018

Filename: 0XX_Env_03.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
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BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

ENVIRONMENTAL IMPACTS PLAN 3

SHEET NUMBER: EP-03

CONTRACT:2018.09

ATTACHMENT 3 Erosion and Sediment Control

Per MTA's memorandum of agreement (MOA), MTA agrees to comply with the Stormwater Management and Erosion Control Standards outlined in the MOA to achieve stormwater quality and quantity controls reasonably consistent with the standards identified per MEDEP Chapter 500 Stormwater Management Rules. As identified in the attached Erosion and Sediment Control Plan (ESCP) and specifications, measures will be taken to prevent unreasonable erosion of soil or sediment beyond the site or into a protected natural resource, such as a river, stream, brook, lake, pond, or wetland and will ensure appropriate stormwater standards are met.

The attached ESCP and specifications will be provided to contractors to establish the minimum acceptable requirements which must be met before any ground-disturbing Project activities may begin. The plan identifies the temporary physical, structural, and managerial practices that will be used to prevent soil erosion and prevent or reduce the potential for sediment movement and discharge into protected natural resources and follows the recommendations and guidelines of MDEP's 2016 Erosion and Sediment Control Best Management Practices (BMP) Manual.

Additionally, while the attached ESCP and specifications provide the minimal acceptable practices, the selected contractor will be required to submit a contractor-prepared *Soil Erosion and Water Pollution Control Plan (SEWPCP)* prior to construction for MTA approval. The plan must provide specifications and details for the installation and implementation of cofferdams, pumps, dewatering, and soil erosion and sedimentation control measures per MDEP's BMP's and the attached ESCP's, while allowing flexibility to apply the most appropriate measures based on site-specific conditions, the construction sequence, timing and weather. MTA personnel and their representatives will ensure that the procedures contained in the contractor-prepared ESCP are followed by regularly inspecting all work and requiring corrective action when necessary.

SUPPLEMENTAL SPECIFICATION

SECTION 656

TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

Section 656 of the Standard Specifications is deleted in its entirety and replaced with the following:

656.01 Description

This work shall consist of providing temporary erosion and water pollution control during construction in accordance with these Specifications, standard details, Best Management Practices, or as otherwise directed.

The Contractor shall certify in writing to the Resident that an On-Site Responsible Party (OSRP) has been trained and is knowledgeable in erosion and sediment control (ECS) through the MaineDEP's Non-Point Source Training Center, or an equivalent program, or is licensed in the State of Maine as a Professional Engineer, Landscape Architect or Soil Scientist. Proof of certification for the OSRP, and any other Contractor employees charged with conducting ESC inspections, must be submitted to the Authority's Environmental Coordinator prior to starting work.

The Project will be performed in accordance with the MaineDOT Best Management Practices (BMP) latest issue. The Contractor shall fully comply with all erosion and sedimentation control requirements outlined in the BMP's or contained herein. Non-compliance with these requirements as determined by the Resident shall result in a financial penalty of $1,000 per day, per violation. Any fines assessed to the Maine Turnpike Authority as a result of the Contractor's non-compliance shall be paid by the Contractor. If the Contractor fails to pay, the cost of the fine will be deducted from monies due, or which may become due, to the Contractor under this Contract.

In the event of conflict between these Specifications and other erosion and pollution control laws, rules or regulations of other Federal, State and local agencies, the more restrictive law, rules or regulations shall apply.

The standards as described below shall be met on the Project:

Water Pollution Control Requirements

(a) General

1. The Contractor must comply with the applicable Federal, State and local laws and regulations relating to prevention and abatement of water pollution.
2. Except as allowed by an approved permit or otherwise authorized by the Authority in writing, pollutants containing construction debris including excavated material, aggregate, residue from cleaning, sandblasting or painting, cement mixtures,

chemicals, fuels, lubricants, bitumens, raw sewage, wood chips, and other debris shall not be discharged into water bodies, wetlands or natural or manmade channels leading thereto and such materials shall not be located alongside water bodies, wetlands, or such channels such that it will be washed away by high water runoff. Furthermore, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in the areas of the site draining to an infiltration area, unless these portions of the site (where storage and handling of these materials) are isolated using dikes, berms, sumps and other forms of secondary containment that prevent discharge to groundwater.

3. Temporary winter stabilization must be used between November 1st and April 15th or outside of said time period if the ground is frozen or snow covered. Temporary winter stabilization involves, at a minimum, covering all disturbed soils and seeded ground that is not Acceptable Work with an approved method. Use of these methods for over-winter temporary erosion control will be paid for under the appropriate Erosion Control items included in the Contract.
4. Construction operations in water bodies or wetlands shall be restricted to the construction limits shown on the Plans and to those areas that must be entered for the construction of temporary or permanent structures, except as allowed by approved permit or otherwise authorized by the Authority in writing. Mechanized equipment shall not be operated in water bodies or wetlands except as allowed by approved permit or otherwise authorized by the Authority in writing.
5. Upon completion of the work, water bodies or wetlands shall be promptly cleared of all falsework, piling, debris or other obstructions caused by the construction operations, except as allowed by approved permit or otherwise authorized by the Authority in writing.

(b) Earthwork

If earthwork disturbance is part of the Project scope:

1. Erosion control blanket shall be installed in the bottom of all ditches except where a stone lining is planned. Seed shall be applied prior to the placement of the blanket.
2. Permanent slope stabilization measures shall be applied within one (1) week of the last soil disturbance. Newly seeded or sodded areas must be protected from vehicle traffic, excessive pedestrian traffic, and concentrated runoff until the vegetation is well-established. If necessary, areas must be reworked and restabilized if germination is sparse, plant coverage is spotty, or topsoil erosion is evident.
3. Dust control items, other than those under Standard Specification Section 637, Dust Control, if applicable, shall be included in the plan.

Construction Requirements

1. All temporary erosion control devices shall be in place and approved by the Resident prior to any operations resulting in disturbed area. Prior to construction, the Contractor shall properly install sediment barriers (e.g., silt fence) at the edge of any downgradient disturbed area and adjacent to any drainage channels within the distrubed area
2. The Contractor is responsible for all temporary drainage and erosion control measures. The Contractor shall review his construction operations and staging to determine if additional erosion control measures are required. The Resident may also request additional erosion control measures. The cost for all erosion control devices necessary, due solely to the Contractor's construction operations and not shown on the Plans, shall be borne solely by the Contractor.
3. Inspections shall be conducted (1) at least once a week as well as before and after a storm event and prior to completing permanent stabilization measures; and (2) by a person knowledgeable of erosion and stormwater control, including the standards and conditions in the permit if applicable.
4. The Contractor shall maintain all measures in effective operating condition until areas are permanently stabilized. If BMPs need to be modified (i.e., corrective action, additional BMPs installed, etc.), implementation must be completed within seven (7) calendar days and prior to any storm event.
5. Temporary erosion control measures shall be maintained until the site is permanently stabilized with vegetation or other permanent control measures.
6. The Contractor will immediately take appropriate measures to prevent erosion or sedimentation from occurring or to correct any existing problems regardless of the time of year.
7. During periods of approved suspension, the Contractor shall inspect and maintain temporary and permanent erosion and sedimentation controls.
8. Work in wetlands is prohibited except to the minimum extent necessary for completion of the work as detailed on the Plans. Excavated and other material shall not be stockpiled in wetlands. Haybales, silt fence or other suitable barriers shall be used, where necessary, to prevent sedimentation from eroding materials.
9. Disturbance of natural resources beyond the construction limits shown on the Plans is not allowed.
10. Existing ditches shall be maintained until the new ditches are stabilized. Stone check dams shall be placed in existing ditches prior to construction as to prevent the release of sedimentation. Stone check dams shall be installed at the outlets of all existing and proposed ditches adjacent to all stream and wetlands.
11. For proposed ditches, stabilize the outlet first and build from the bottom up. Only excavate what can be stabilized or protected by the end of the work day.
12. Before permitting permanent channels to carry water, they shall be stabilized. This may require the installation of temporary erosion control BMP’s or temporarily diverting flows.
13. All cross culvert outlets shall be armored before the end of the work day.
14. The Contractor’s operation may require the placement of temporary pipes and fill over a ditch line to provide access to the work area. The Resident shall approve the size of

the pipe. The placement and removal of the temporary access shall not be measured for payment and shall be incidental to the Excavation item.

15. Bare earth slopes shall be roughened to dissipate sheet flow. This shall be accomplished by "tracking" the slope perpendicular to the centerline. This work will not be measured separately for payment, but shall be incidental to the Excavation item.
16. Uncured concrete shall not be placed directly into the water body. Concrete may be placed in forms and shall cure at least one (1) week prior to form removal. No washing of tools, forms, etc. shall occur in or adjacent to the water body or wetland.
17. The Contractor shall contain all demolition debris (including debris from wearing surface removal, sawcut slurry, dust, etc.) and shall not allow it to discharge to any resource. Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source. The Contractor shall dispose of debris in accordance with Maine Solid Waste Law, Title 38 M.R.S.A., Section 1301 et. seq.
18. No wheeled or tracked equipment shall be operated in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may NOT cross streams.
19. The Contractor shall not remove rocks from below the normal high water line of any wetland, great pond, river, stream or brook, except to the extent necessary for completion of the work and as allowed by environmental permits.

Spill Prevention Control and Countermeasure (SPCC) Plan

Any areas where petroleum products, oils or non-petroleum hazardous materials are handled or stored will require a Spill Prevention Control and Countermeasure (SPCC) Plan. These materials may not be stored or handled in areas of the site draining to an infiltration area. The Plan will be submitted to the Resident before construction begins. In addition to petroleum products and hazardous materials, controls must be used to prevent additional pollutants (i.e., fertilizers, pesticides, salt/brine, litter, construction demolition debris, etc.) from being discharged from materials on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation. The Plan shall provide the following information at a minimum:

1. The name and emergency response numbers (telephone number, cellular phone and pager numbers, if applicable) of the Contractor's representative responsible for spill prevention and response;

2. Description of handling or storage location noting setbacks from water bodies where relevant. Significant sand and gravel aquifers and other sensitive resources, including infiltration areas, must be avoided wherever possible;

3. Description of storage and containment facilities, such as dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater or surface water;

4. Description of equipment and/or materials used to prevent discharges (including sorbent materials);

5. Preventative measures to minimize the possibility of a spill; and,

6. Contingency plan if spill should occur.

The approved plan must be posted at the Project site. All personnel working in the area are required to read and be familiar with the plan.

There shall be no separate payment for preparation of a SPCC Plan acceptable to the Resident and preparation shall be incidental to the work.

Notification of Authority of Hazardous Material Spills

In addition to MaineDEP reporting requirements for spills greater than five (5) gallons, the Contractor shall notify the on-site Resident Inspector. The on-site Resident Inspector shall notify the Maine Turnpike Radio Room at 207-871-7701. When the on-site Resident Inspector is not available, the Contractor shall notify the Maine Turnpike Radio Room directly at 207-871-7701.

In addition to MaineDEP reporting requirements for all spills where any stream or water body is threatened, the Contractor shall notify the on-site Resident Inspector. The on-site Resident Inspector shall notify the Maine Turnpike Radio Room at 207-871-7701. When the on-site Resident Inspector is not available, the Contractor shall notify the Maine Turnpike Radio Room directly at 207-871-7701.

These notification procedures shall be incorporated into the Spill Prevention Control and Countermeasure (SPCC) Plan.

Responsibility for Control and Cleanup of Hazardous Material Spills

The Contractor shall be responsible to control spills and properly cleanup, containerize, and dispose of petroleum and/or other hazardous material waste that results from the actions and/or equipment of the Contractor or his employees, subcontractors and suppliers. Chemicals, exposed to stormwater must be prevented from becoming a pollutant source.

The Contractor shall also be responsible for all direct and indirect costs associated with the control of spills and proper cleanup, containerization, and disposal of petroleum and/or other hazardous material waste that results from the actions and/or equipment of the Contractor or his employees, subcontractors and suppliers.

656.02 Temporary Erosion and Sedimentation Control Devices - Materials

The Contractor shall install and maintain all temporary erosion and sedimentation control materials in accordance with the manufacturer's recommendations or the latest BMP’s.

1. Baled hay shall be bales at approximately 14 by 18 by 30 inches, or an equivalent, securely tied to form a firm bale.
2. Flexible drainage pipe shall consist of collapsible neoprene pipe, a minimum of 12 inches in diameter or equal.
3. Silt Fence

    (a) Posts - Either hardwood posts or steel posts shall be used. Hardwood posts shall be straight, at least 18 inches longer than the height of the silt fence and at least one inch by one inch.

    Staples shall be of No. 9 wire.

    Steel posts shall be at least 18 inches longer than the height of the silt fence and have the means provided for fastening wire to the fence.

    (b) Wire Support Fence - If required, wire support fence shall be at least two inches higher than the height of the silt fence. Horizontal and vertical wires shall be spaced no more than six inches apart. The top and bottom wires shall be at least 10 gauge; all other wires at least 12 gauge.

    (c) Fabric - The woven geotextile fabric and components shall be made from polypropylene, polyester, polymide or other chemically stable material and be resistant to ultraviolet radiation degradation for at least 12 months of installation. Silt retention capacity shall be no less than 75 percent. The fabric shall have a Mullen burst test of no less than 260 pounds per square inch with a maximum average sieve opening size of No. 20 to No. 60. Roll width of the fabric shall be no less than six inches wider than the height of the fence, except fabric for boom supported floating silt fence which shall be no less than two feet wider than the design width.

    (d) Flotation Devices – Boom supported floating silt fence shall consist of suitable, flexible plastic or synthetic rubber barrier supported on the top (or floated on the top using six inch “minimum” Styrofoam logs) and sides, and weighted or anchored on the bottom to form a continuous vertical barrier to contain within the designated area(s), silt and clay-size particles suspended or carried by water. The flotation boom and weighing devices for boom supported floating silt fence shall be sufficient to hold the fence in an approximately vertical position.

656.03 Temporary Erosion and Sedimentation Control Devices - General

Temporary Erosion Checks - Temporary erosion checks shall be constructed in ditches and at other locations designated. Checks shall be in accordance with the Standard Detail unless otherwise directed.

Baled hay shall be used in other areas as necessary to inhibit soil erosion.

During winter construction, November 1st through April 15th, all areas being constructed within 75 feet of a protected natural resource shall be protected with a double row of silt fence.

Sediment deposits behind haybales and silt fence shall be removed when the depth of sediment reaches 50 percent of the erosion control device height.

The Contractor is also required to have on-site, at all times, 25 percent additional Contract quantities of silt fence for use as backup devices.

656.04 Temporary Erosion and Sedimentation Control Devices – Construction Requirements

1. Erosion Control Filter Berm

   The Contractor may opt to furnish and install an erosion control filter berm in lieu of silt fence. The erosion control filter berm shall be a water permeable windrow of a composted bark mix to remove suspended soil particles from water moving off the site. Erosion control filter berm shall be considered an erosion control device. The material and specific application shall be submitted to the Resident for approval.

   The erosion control berm shall be placed uncompacted, in a windrow in locations approved by the Resident. The cross section of the berm shall be four feet wide at the base and 1-1/2 feet high at the center. The erosion control filter berm shall be removed when no longer required, as determined by the Resident, and shall be distributed over an adjacent area.

2. Temporary Berms

   When designated, temporary barriers shall be constructed along the edge of the embankment. The barriers shall be of embankment earth material, gravel or sand as available and shaped approximately as shown in the Standard Details. The barriers shall be compacted with the wheels of construction equipment. When placed on pavement, the berms shall be constructed of asphalt grindings or other non-erodible soil material as approved by the Resident, and shaped as shown in the Standard Details.

   At designated intervals, temporary slope drains shall be constructed with a crescent shaped barrier placed at each slope drain to direct the water into the inlet pipe.

3. Temporary Slope Drains

   Collapsible pipe with corrugated metal pipe inlet shall be placed down the embankment slopes at designated locations and in accordance with the Best Management Practices. At the outlet end of the drain, dumped stone shall be placed to prevent scoring unless otherwise directed.

4. Silt Fence

The silt fence shall be installed downhill of disturbed slopes as shown on the Plans or as approved. The Contractor shall have the option to provide a reinforced filter fabric or an un-reinforced filter fabric attached to a wire fence.

The fence posts shall be spaced as specified by the Resident, however, not to exceed a maximum of eight feet [2.5 m] apart when either type of silt fence is used and be driven a minimum of 18 inches [450 mm] into the ground.

The geotextile fabric shall be secured to the post or fence by suitable staples, tie wire or hog rings in such a manner as to prevent tearing and sagging of the fabric. The bottom flap of the geotextile fabric shall be entrenched into the ground a minimum depth of six inches [150 mm] to prevent water from flowing under the fence. The geotextile shall be spliced together only at support posts with a minimum six inches [150 mm] overlap and secure post connection which prevents leakage of silt. The top of the geotextile shall be installed with a reinforced top end section.

The Contractor shall maintain the silt fence in a functional condition at all times. All deficiencies shall be immediately corrected by the Contractor. The Contractor shall make a daily inspection of silt fences in areas where construction activity causes drainage runoff, to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, additional silt fences shall be installed as approved or otherwise directed.

Sediment deposits shall be removed when sediments reach 50 percent of the height of the device. All sediment deposits remaining in place after the device is no longer required shall be graded to conform to the existing ground, seeded and mulched immediately.

Geotextile fabric which has decomposed or has become ineffective and is still needed shall be replaced with material equal to the original design.

5. Boom Supported Floating Silt Fence

Prior to starting any work within the river, the Contractor shall furnish and install a boom supported floating silt fence to completely surround the work area as shown on the Plans or as approved by the Resident. The boom supported floating silt fence shall remain in place a minimum of 48-hours after the completion of the work. The Contractor shall then remove the boom supported floating silt fence from the river.

The silt fence fabric shall be securely attached to the flotation boom with a continuous weight placed the entire length of the fence to maintain the fence in a vertical submerged position from the surface of the water to the design depth.

Anchor's shall be placed at the ends of the fence, and intermediate locations if

necessary, to hold the fence securely in place.

6. Temporary Mulch

Temporary stabilization with mulch or other non-erodable cover is required on all exposed soils that will not be worked for more than 7 days. Areas within 75 feet of a wetland or waterbody shall be stabilized within 48 hours of the initial disturbance of the soil or prior to any storm event, whichever comes first.

The Contractor is responsible for applying temporary mulch as necessary, in accordance with the latest edition of the BMP's, to minimize soil erosion prior to the application of the final slope treatment.

Temporary mulch applied during the winter months of November 1st through April 15th shall be applied at twice the standard temporary stabilization rate or 150 lbs. per 1,000 square feet or three tons/acre. Mulch shall not be spread on top of snow and shall be anchored with mulch netting on slopes steeper than eight percent unless erosion control blankets or erosion control mix is being used on the slopes.

The Contractor shall review his construction operations and staging to determine how much temporary mulching is required.

656.05 Temporary Erosion and Sedimentation Control Devices - Maintenance

The erosion control devices will be cleaned, repaired or replaced as necessary. All deficiencies shall be corrected immediately by the Contractor.

656.06 Temporary Erosion and Sedimentation Control Devices - Removing and Disposing

When disturbed areas have been permanently stabilized, temporary erosion control devices, including stone check dams, shall be removed. However, erosion control mix filter berms may be spread out, seeded and left to decompose. Areas disturbed during the removal of the erosion control devices shall be repaired and properly stabilized.

When removed, such devices may be reused in other locations provided they are in good condition and suitable to perform the erosion control for which they are intended. Reused devices, if approved, will be measured for payment.

656.07 Erosion Control Compliance Officer

The Contractor shall designate an Erosion Control Compliance Officer (CECCO) on this Project who shall be a "DEP Certified Contractor" or have had equivalent training approved by the Authority. The Contractor shall provide the Resident with the name of the CECCO and any phone numbers or pager numbers that can be used to contact the person in case of emergency.

Before commencing any work that could disturb soils or impact water quality, the CECCO must field review the Project with the Resident's ECCO (RECCO).

656.08 Inspection and Recordkeeping

The CECCO shall accompany the RECCO in the inspection of all erosion control devices. An inspection log shall be maintained by the Resident for the duration of the Project. The log will include daily on-site precipitation and air temperature as well as the performance, failure and/or any corrective action for all erosion and sedimentation controls in place. The log will be updated at least weekly and after all significant storm runoff or flood events. The log shall be signed by the RECCO and the CECCO after each inspection.

Failure to comply with the erosion and sedimentation control requirements herein or as directed by the RECCO within 24-hours after the violation is noted in the inspection log, will result in the $1,000 per day per violation penalty until the violation is corrected to the satisfaction of the Resident.

656.09 Method of Measurement

Baled hay will be measured for payment by the number of bales or bags satisfactorily placed.

Temporary berms and temporary slope drains will be measured for payment by the linear foot measured parallel with the flow line including the pipe inlet.

Temporary silt fence will be measured by the linear foot along the gradient of the fence, end post to end post.

Boom supported floating silt fence will be measured by the linear foot.

Erosion control filter berm shall be measured by the linear foot.

The quantity of additional haybales and silt fence material required herein will be measured for payment only when and if they are actually put to use as additional measures on the Project as approved by the Resident. Haybales and silt fence material used for maintenance or replacement of existing devices will not be measured for payment.

The removal of silt and other material from behind the erosion control devices will not be measured separately for payment, but shall be incidental to the Erosion Control items.

Temporary Mulch – See Section 619 Mulch.

656.10 Basis of Payment

The accepted quantity of baled hay or sandbags will be paid for at the Contract unit price each for each bale or bag which price shall be full compensation for furnishing and placing the bales or sandbags, for furnishing and driving the stakes for baled hay, for maintaining the bales, stakes or

sandbags, and for the removing and disposing of the bales, stakes or sandbags when no longer needed.

The accepted quantity of temporary berms will be paid for at the Contract unit price per linear foot of berm which price shall be full compensation for furnishing, placing and compacting material, for maintaining and for removing the berm when no longer needed.

There will be no separate payment for excavation in the construction of temporary erosion control items under this Section and all necessary excavation shall be incidental to the work.

The accepted quantity of dumped stone will be paid for at the Contract unit price per cubic yard which price shall be full compensation for furnishing the stone, transporting, placing and shaping. Payment for removal or for covering will be made under Item 629.05, Hand Labor, and the appropriate Equipment Rental items.

The accepted quantity of temporary silt fence and boom supported floating silt fence will be paid for at the Contract unit price per linear foot complete in place. Payment shall be full compensation for furnishing, installing, maintaining, anchoring, replacing deteriorated geotextile and clogged geotextile when required and for removing and disposing of the fence when no longer needed.

The accepted quantity of erosion control filter berm will be paid for at the Contract unit price per linear foot under Item 656.632, 30 Inch Temporary Silt Fence, which price shall be full compensation for furnishing, placing, maintaining, and removing the erosion control filter berm.

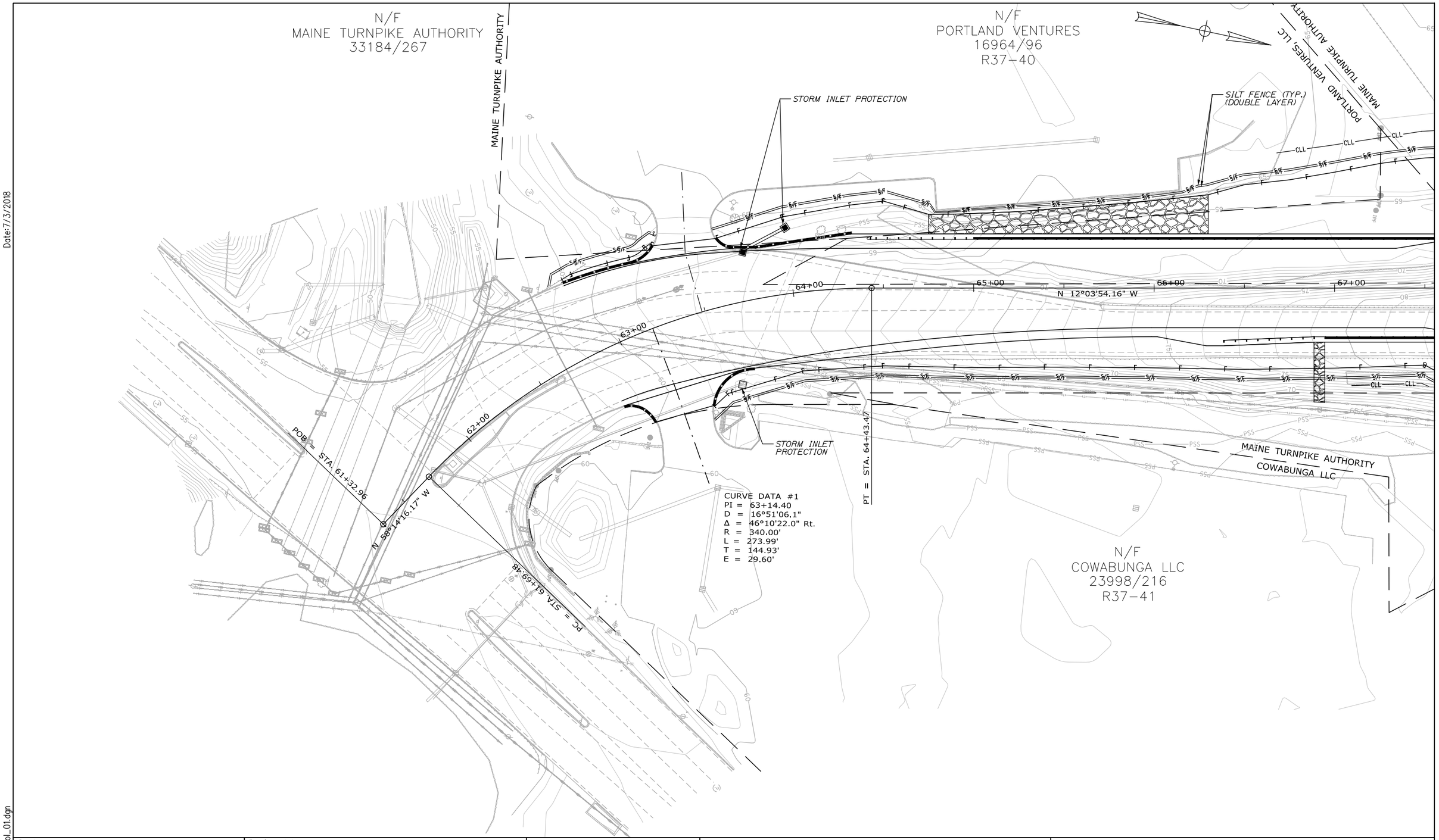
Cost of seeding and mulching the area after removal of the temporary silt fence will be paid for at the Contract unit prices for Item 618, Seeding, and Item 619, Mulch.

Temporary Mulch – See Section 619 Mulch.

Payment will be made under:

Pay Item		Pay Unit
656.50	Baled Hay, in place	Each
656.60	Temporary Berms	Linear Foot
656.62	Temporary Slope Drains	Linear Foot
656.632	30 inch Temporary Silt Fence	Linear Foot
656.64	Boom Supported Floating Silt Fence	Linear Foot

Date:7/3/2018



Scale:
25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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

MAINE TURNPIKE

THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

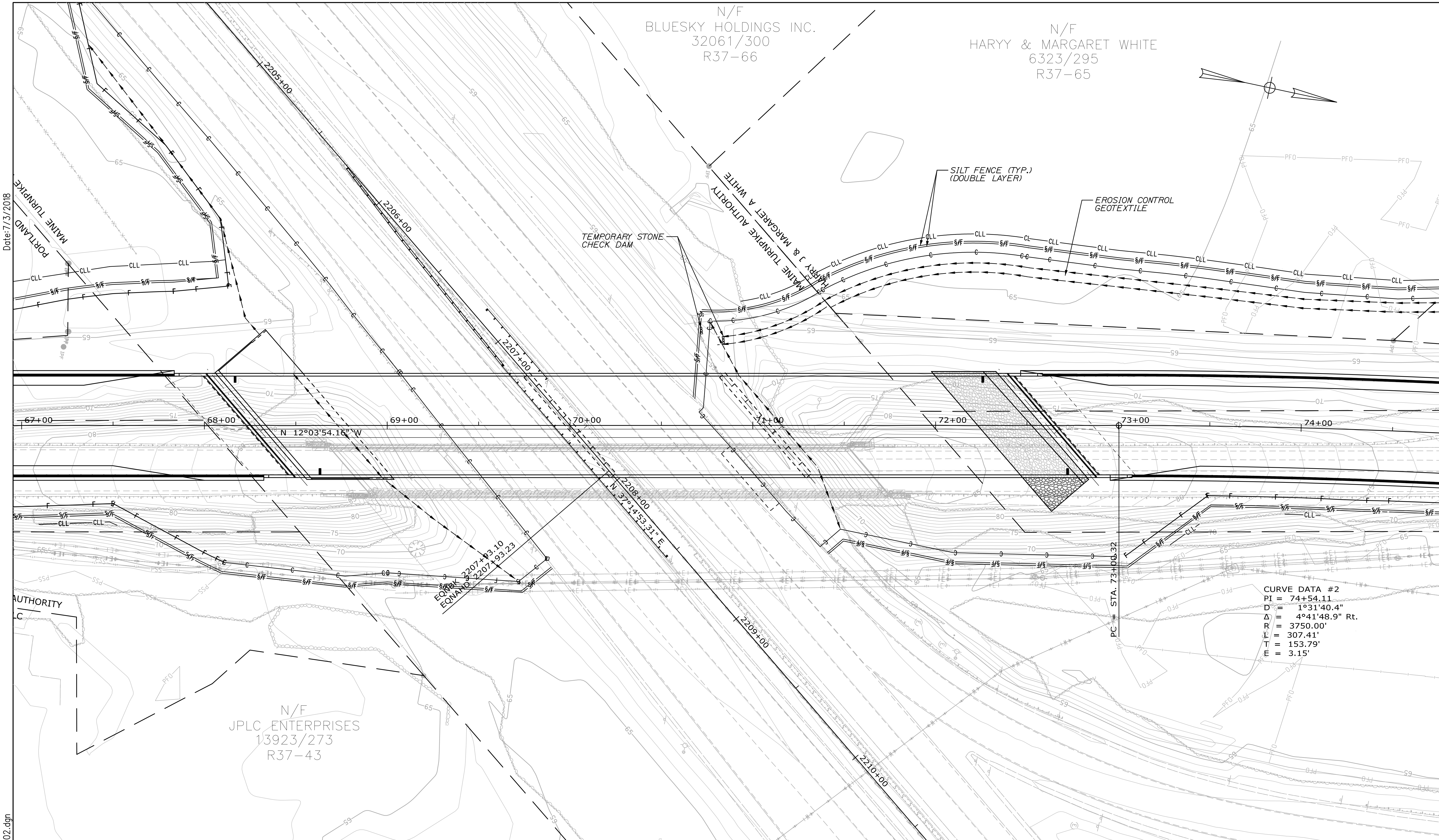
EROSION CONTROL PLAN 1

SHEET NUMBER: ER-01

CONTRACT:2018.09

XX OF 101

Filename: 0XX_ErosionControl_01.dgn



Date:7/3/2018

Filename: 0XX_ErosionControl_02.dgn

Scale: 25 0 25 50 Scale of Feet

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

EROSION CONTROL PLAN 2

SHEET NUMBER: ER-02

CONTRACT:2018.09

XX OF 101

Date:7/3/2018

WILLOWDALE ROAD LLC

N/F
WILLOWDALE ROAD LLC
31707/2
R37-60

STATE OF MAINE
17605/168
R37-61

EROSION CONTROL GEOTEXTILE

SILT FENCE (TYP.)
(DOUBLE LAYER)

CURVE DATA #3
PI = 77+55.98
D = 1°31'40.4"
Δ = 4°31'40.4" Lt.
R = 3750.00'
L = 296.35'
T = 148.25'
E = 2.93'

PT = STA. 79+04.08

POE = STA. 80+58.10

75+00 76+00 77+00 78+00 79+00 80+00 80+58

N 11°53'45.71" W

PRC = STA. 76+07.73

CURVE DATA #2
PI = 74+54.11
D = 1°31'40.4"
Δ = 4°41'48.9" Rt.
R = 3750.00'
L = 307.41'
T = 153.79'
E = 3.15'

N/F
DAYTON HUDSON CORP.
15300/210
R37/62

TARGET CORPORATION T-1338A
MAINE TURNPIKE AUTHORITY

TOWN OF SCARBOROUGH
TOWN OF SOUTH PORTLAND

Filename: 0XX_ErosionControl_03.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

EROSION CONTROL PLAN 3

SHEET NUMBER: ER-03

CONTRACT:2018.09

XX OF 101

ATTACHMENT 4 Photographs

Cummings Road Bridge Underpass Project
Scarborough, Maine

I-95 Northbound Lanes Looking Northeast

I-95 Southbound Lanes Looking East

Cummings Road Looking North

Wetland W1 and Adjacent Developed Upland Areas Looking North

Cummings Road Bridge Underpass Project
Scarborough, Maine

Wetland W2 and Adjacent Developed Upland Areas Looking North

Wetland W4

Wetland W4

Upland Adjacent to Wetland W4

Cummings Road Bridge Underpass Project
Scarborough, Maine

Wetland W5

Wetland W5

Wetland W5

Wetland W5

Cummings Road Bridge Underpass Project
Scarborough, Maine

Upland Adjacent to Wetland W5

Ephemeral Stream S-1 (Upper Reach)

Ephemeral Stream S-1 (Lower reach near tie-in to Drainage D2)

Roadside Drainage D2

ATTACHMENT 5 Agency Coordination

PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

CHANDLER E. WOODCOCK
COMMISSIONER

February 23, 2018

Lori Driscoll
HNTB Corporation
340 County Road
Westbrook, ME 04092

RE: Information Request - MTA Cummings Road Bridge replacement, Scarborough

Dear Lori:

Per your request, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and fisheries habitat concerns within the vicinity of the *MTA Cummings Road Bridge replacement Project* in Scarborough.

Our Department has not mapped any Essential Habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bats

Of the eight species of bats that occur in Maine, the three *Myotis* species are protected under Maine's Endangered Species Act (MESA) and are afforded special protection under 12 M.R.S §12801 - §12810. The three *Myotis* species include little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are listed as Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat.

While a comprehensive statewide inventory for bats has not been completed, it is likely that several of these species occur within the project area during migration and/or the breeding season. We recommend that you contact the U.S. Fish and Wildlife Service--Maine Fish and Wildlife Complex (Wende Mahaney, 207-902-1569) for further guidance, as the northern long-eared bat is also listed as a Threatened Species under the Federal Endangered Species Act. Otherwise, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Significant Wildlife Habitat

Significant Vernal Pools

At this time, MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of SWHs within the project area, which include Waterfowl and Wading Bird Habitats, Seabird Nesting Islands, Shorebird Areas, and Significant Vernal Pools. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. Therefore, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to

determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, our Department will need to review and verify any vernal pool data prior to final determination of significance.

Fisheries Habitat

Without details, it is difficult to know what impacts your project may have on the stream within the search area. That being said, MDIFW makes the following general recommendations as they pertain to streams.

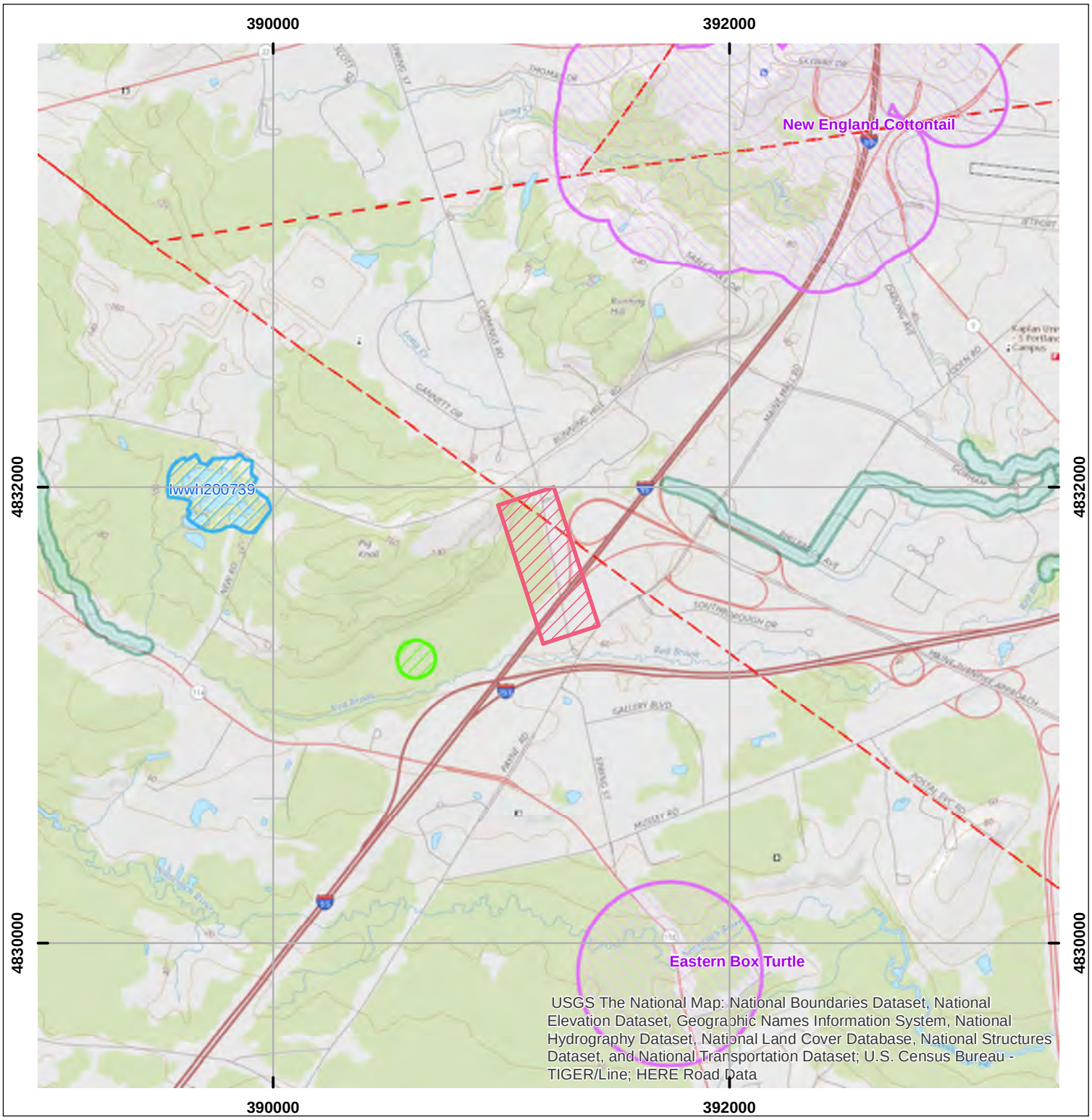
Red Brook and its tributaries support a wild brook trout population. We generally recommend that a 100-foot undisturbed vegetated buffer be maintained along streams. Buffers should be measured from the edge of stream or associated fringe and floodplain wetlands. Maintaining and enhancing buffers along streams that support coldwater fisheries is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support conditions required by many fish species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide full fish passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis and undersized crossings may inhibit these functions. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e. natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in not only providing habitat connectivity for fish but also for other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fish and fisheries habitat. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

John Perry
Environmental Review Coordinator



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: raremussels (Version 1)

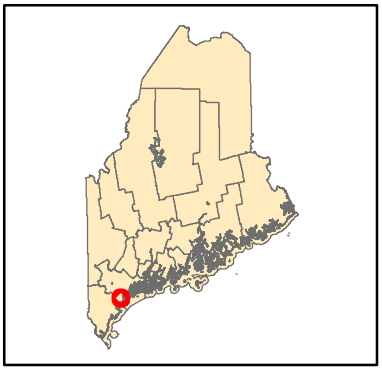
Maine Department of Inland Fisheries and Wildlife

0 0.125 0.25 0.5 0.75 1 Miles

Projection: UTM, NAD83, Zone 19N

Date: 2/9/2018

- ProjectPolys
- ProjectSearchAreas
- Inland Waterfowl/Wading Bird
- Significant Vernal Pools
- ETSc Environmental Review Polygons
- Special Concern-occupied habitats(100ft buffer)



MEETING NOTES

HNTB

Date October 27, 2017

HNTB Project Portland Area Mainline 63272-DS-908

Meeting Review Potential Wetlands and Streams

Location: MTA Office and Site Visit

Purpose: Review Potential Wetlands and Streams with Permitting Agencies

Attending: Jay Clement – USACE, Audie Arbo – MaineDEP, Bob Green – MaineDEP
Sara Zografos – MTA, Ralph Norwood – MTA, Erik Lema – Normandeau,
Dale Mitchell - HNTB

- Sara introduced the project and the purpose for the meeting
    - MTA is currently studying the carrying capacity of the Turnpike mainline between Exit 44 and 53 including development of traffic projections for the next 20 years; a Needs Assessment study.
    - MTA's ongoing infrastructure management program is updating projections for when existing overpass and underpass bridges will require repair, rehabilitation, and/or replacement. Currently, the Cummings Road bridge is in the design phase for replacement due to it's age. Similarly, the Exit 45 Interchange bridge has recently been repaired and is scheduled for replacement in the 10-year timeframe.
    - Given the timeline of these infrastructure rehabilitations and replacements, along with the steady growth of traffic on this section of the Turnpike, MTA has started the data collection necessary to support a wide range of potential outcomes of the Turnpike Needs Assessment study. Today's meeting is part of this data collection.
- Dale described the recent wetland, stream, and vernal pool data collection.
    - Two firms were brought on to collect this data, NewEarth collected data from Mile 44 to the Exit 48 Interchange, and Normandeau collected data from the Exit 48 Interchange to Mile 53.
    - There were 17 low-lying water filled areas identified south of Exit 48. Of them, only two met Maine's definitions for designation as Vernal Pool habitat. Of these, only one had evidence of use by target indicator species.
    - There were no areas identified as potential Vernal Pool habitat north of Exit 48.
    - These areas will be visited for a second season of data gathering.
    - Wetlands were delineated based on the 1987 USACE Wetland Delineation Manual and Regioinal supplement to the Corps Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)
    - 56 wetland complexes were identified south of Exit 48. 36 of these were connected to and/or maintained as stormwater conveyance (roadside ditches).
    - 77 wetland complexes were identified north of Exit 48. 29 of these were connected to and/or maintained as stormwater conveyance (roadside ditches).
- Sara and Dale then described the goal of working with the USACE and MaineDEP to clarify and better understand the Agencies expectations of permitting theoretical wetlands that are essentially human-made roadside ditches – stormwater conveyance features.
    - Dale provide the group with 11x17 graphics, color coded based on the MTA team's understanding of each feature, i.e. wetland, isolated wetland, roadside ditch, and stream,

as well as a picture log for each of these features. The group then walked through a number of representative examples, looked at pictures, and discussed the 'intent' of the feature definitions and feature use.

- Jay offered the following feature description for a good starting point:
  - If it started it's life as a wetland, was altered, and still meets definition of a wetland, it's likely still a wetland.
  - If it started it's life as a ditch, is maintained but now meets the definition of a wetland, it's likely still a ditch.
- Jay, Audie, and Bob offered that they appreciated the thorough field review and classifications and understood the MTA Team's desire to question the real classification of some features, especially the roadside ditches.
- A number of features were determined to be roadside ditches and not wetlands, mostly those that were more upland in nature and were not attached to larger wetland complexes. There were also a number of areas that were determined roadside ditches for that portion that simply conveyed stormwater and then determined a wetland when emptying into a larger wetland complex.

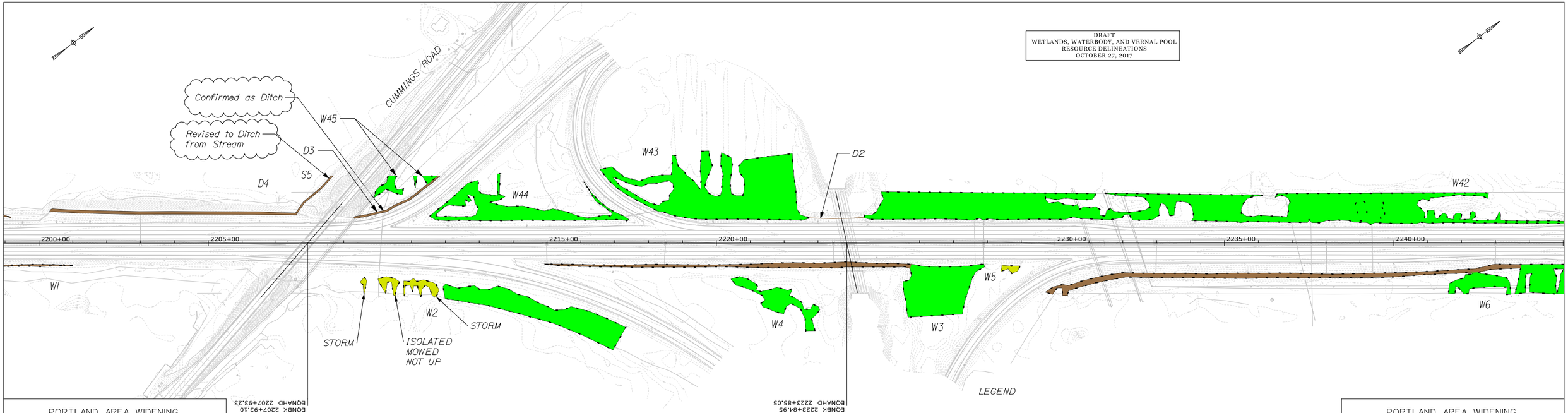
- Following the office review of pictures and plan delineations, the group visited a number of more questionable areas as well as a few very clear examples of roadside ditches that were truly roadside ditches and roadside ditches that were truly extensions of wetlands. The group also reviewed a number of features meeting definitions of a stream and in some cases agreed that the real classification should be a ditch, i.e. it was upland in nature and was simply an area where concentrated flow from the roadside ditch had carved a channel down a slope and to a cross-culvert.
- Following the site visit Audie asked if the MTA could assemble the colored graphics and notes of the meeting and forward them for the Agencies' review.

Submitted by,

HNTB CORPORATION
Dale A. Mitchell, P.E.
Senior Project Manager

cc: Meeting Attendees

DRAFT
WETLANDS, WATERBODY, AND VERNAL POOL
RESOURCE DELINEATIONS
OCTOBER 27, 2017



EXIT 45 - SOUTH PORTLAND

LEGEND

- WETLAND
- ISOLATED WETLAND
- ROADSIDE DITCH, STORMWATER CONVEYANCE
- STREAM

LAYOUT SCALE
50 0 50 100
Scale of Feet

PORTLAND AREA WIDENING

ROLL PLOT 2

SHEET NUMBER: RP-2

DATE: 10/10/17 2 OF 9

Designed by:

HNTB

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

PORTLAND AREA WIDENING

ROLL PLOT 2

SHEET NUMBER: RP-2

DATE: 10/10/17 2 OF 9

Designed by:

HNTB

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

LAYOUT SCALE
50 0 50 100
Scale of Feet

APPENDIX B
ACOE ENVIRONMENTAL PERMIT

Maine Turnpike Authority
2360 Congress Street
Portland, Maine 04102

July 10, 2018

US Army Corps of Engineering
Maine Project Office
675 Western Avenue #3
Manchester, Maine 04351

Attn. Jay Clement

Re: Permit Application
Cummings Road Bridge Replacement Project

Dear Jay:

Please find enclosed the ACOE application for the above referenced project. Included with this cover letter are:

- A Completed ACOE Engineering ENG Form 4345; and
- Supporting narratives, attachments, maps, plan, photographs and attachments.

Thank you for your attention to MTA's application. Please do not hesitate to contact me at 482-8348 or at rnorwood@maineturnpike.com with any questions that you may have regarding this project.

Sincerely,

Maine Authority

Ralph Norwood IV, P.E.
Project Manager

Maine Turnpike Authority
Cummings Road Bridge Underpass Project

Application for United States Army Corps of Engineers
General Permit, Category II, 33 CFR 320-332

Mile Marker 44.6
Scarborough, Maine

JULY 9, 2018

TABLE OF CONTENTS

Section

U.S. Army Corps of Engineers (USACE)

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003 Expires: 01-08-2018

The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - Ralph Middle - C. Last - Norwood, IV	First - Middle - Last -
Company - Maine Turnpike Authority	Company -
E-mail Address - rnorwood@maineturnpike.com	E-mail Address -
6. APPLICANT'S ADDRESS:	**9. AGENT'S ADDRESS:**
Address- 2360 Congress Street	Address-
City - Portland State - ME Zip - 04102 Country - USA	City - State - Zip - Country -
7. APPLICANT'S PHONE NOs. w/AREA CODE	**10. AGENTS PHONE NOs. w/AREA CODE**
a. Residence b. Business (207) 482-8348 c. Fax	a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

_____ SIGNATURE OF APPLICANT _____ DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)
Cummings Road Bridge Underpass Project

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
Not Applicable	Address
15. LOCATION OF PROJECT	City - State- Zip-
Latitude: 43.629813° Longitude: -70.348263°	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)
State Tax Parcel ID SEE ATTACHED Municipality
Section - Township - Range -

17. DIRECTIONS TO THE SITE

Interstate 95, Mile Marker 44.6, Maine Turnpike Authority Bridge No. 0276 & Cummings Road.

18. Nature of Activity (Description of project, include all features)

SEE ATTACHED.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

SEE ATTACHED.

The purpose of the project is to address functional and geometric deficiencies and provide accommodations for potential future widening of the I-95 corridor . The project is needed in order to extend the service life of the structure, eliminate identified maintenance issues, and to address the substandard under clearance, horizontal clearance, and bridge roadway width which would prohibit future widening of the Turnpike. Construction is anticipated non-stop from February 2019 to November 2020, with final seeding and pavement markings in the spring of 2021.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

No dredge material will be discharged.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type	Type	Type
Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards
NA	NA	NA

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres 14,904 sq ft (0.34 acre) of total wetland impact (6,890 sq ft [0.16 acre] permanent; 8,014 sq ft [0.18 acre] temporary)

or

Linear Feet SEE ATTACHED for details

23. Description of Avoidance, Minimization, and Compensation (see instructions)

SEE ATTACHED

The impacts occur adjacent to the existing bridge that requires rehabilitation. The only project alternative was the “no action” alternative, which would not meet the project purpose and need, and was therefore eliminated.

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- SEE ATTACHED

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
SEE ATTACHED					

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Ralph Mrozek 7-9-18

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

SUPPLEMENTAL INFORMATION - BLOCK 18 Project Description

Introduction

The Applicant, Maine Turnpike Authority (MTA), is proposing the Cummings Road Bridge Underpass Project (Project) located in Scarborough, Maine (see Attachment 1: Project Location Map). The proposed Project involves work to address deteriorating conditions of the superstructure, abutments, piers and drainage troughs of the existing bridge crossings over the turnpike. Built in 1956, the existing bridge is a two-lane, four-span continuous bridge with an overall length of 280 feet and an out-to-out deck width of 28.67 feet. The bridge is functionally obsolete due to substandard under clearance, horizontal clearance and bridge roadway width and currently does not provide provisions for pedestrians and bicyclists. Numerous repairs have been made to the structure between 1990 and 2016, and a thorough structural evaluation was completed in 2017. Although the bridge superstructure is in satisfactory condition, the decks are exhibiting signs of deterioration as evidenced by cracking and efflorescence at multiple locations, rust and corrosion throughout structural steel components, paint loss, and the steel rocker bearings are in poor condition. Abutments, wingwalls, backwalls and piers are in good to fair condition, but experiencing widespread map-cracking, general cracking, spalling, and pop-outs.

The purpose of the Project is to correct the geometric deficiencies, address structural deficiencies, and provide accommodations for potential future widening of the I-95 corridor. Major Project components include replacement of the bridge and realignment of the connecting roadways (see Attachment 2: Design Plans and Project Impacts). The bridge and roadway will be widened to accommodate four, 11-foot lanes and two 5-foot shoulders, for an overall width of 54-feet; which could accommodate safe access for bicyclists and pedestrians. The centerline will be situated 24.5 feet west of the existing roadway centerline. The bridge and road profile will be raised by 3.5 feet to provide a 16.5-foot minimum clearance of the turnpike. Impact areas of the primary work components are shown in Attachment 2.

Bridge replacement is necessary to extend the service life of the structure, eliminate identified maintenance issues, and to address the substandard under clearance, horizontal clearance, and bridge roadway width which would prohibit future widening of the Turnpike. The only project alternative was the “no action” alternative, which would not meet this project purpose and need, and was therefore eliminated.

Identified Environmental Concerns

A formal wetland and stream delineation, assessment of the site for potential significant wildlife habitat such as vernal pools, and an environmental data review, were performed by NewEarth Ecological Associates, LLC in 2017 to identify potential protected resources in the Project area. Much of the proposed work will take place within the existing roadway and bridge superstructure and involve no new ground disturbance. However, adjustments to the roadway approaching the reconstructed bridge will be necessary and will involve some temporary and permanent environmental impacts; some of which will occur within protected resources.

Through a desktop and onsite review of environmental conditions, careful design planning, and collaboration with environmental agencies, the Project was designed to minimize the impact to

environmental resources and is expected to result in the following (see Attachment 2: Design Plans and Project Impacts):

Wetland Impacts

14,904 sq ft (0.342 acre) of total wetland impact (6,890 sq ft [0.158 acre] permanent; 8,014 sq ft [0.184 acre] temporary), consisting of palustrine forest (PFO), palustrine scrub-shrub (PSS), and maintained palustrine emergent (PEM) wetlands along the Cummings Road embankment toe of slope. None of the wetlands are wetlands of special significance. Areas temporarily impacted will be stabilized and left to revert to vegetated wetland communities; those within the MTA right-of way will be periodically mowed/maintained. More specifically, wetland impacts include the following:

- 5,703 sq ft (0.13 acre) of permanent loss of PFO wetland due to filling/grubbing
- 73 sq ft (0.002 acre) of permanent loss of PSS due to filling/grubbing
- 1,114 sq ft (0.03 acre) of permanent loss of PEM wetland due to filling/grubbing

6,890 sq ft permanent impact

- 2,133 sq ft (0.05 acre) of conversion of PFO wetland – will revert to maintained PSS-PEM
- 1,589 sq ft (0.04) temporary alteration of PSS – will revert to maintained PSS-PEM
- 4,291 sq ft (0.10) temporary alteration of PEM – will revert to maintained PSS-PEM

8,014 sq ft temporary impact

Ephemeral Drainage Impacts

550 linear feet of relocation of an ephemeral stormwater drainage feature. Based on a professional wetland/stream delineation performed by NewEarth Ecological Consulting, LLC in 2017, the feature did not meet the criteria for definition of a jurisdictional stream per Maine's NRPA. A subsequent site visit with Audie Arb and Bob Green of the MaineDEP and Jay Clement of the USACE on October 27, 2017, confirmed the feature to be a non-jurisdictional stormwater drainage ditch (see Attachment 6: Agency Coordination).

Vegetation Clearing

67,107 sq ft (1.54 ac) of clearing is proposed and includes 58,349 sq ft (1.34 ac) of upland forest, and to a lesser extent shrub and herb communities, and 7,836 sq ft (0.18 ac) of forested wetland. Clearing will remove potential habitat for the federal and state-endangered Northern Long-eared bat (*Myotis septentrionalis*). No hibernaculum or maternity sites are known to occur within 0.25 miles of the Project site (see Attachment 6: Agency Coordination). Additionally, all vegetation clearing will take place in late winter – early spring to avoid key nesting periods for bats and other wildlife.

Temporary impacts are associated with areas needed by contractors for equipment access, staging and laydown. Undeveloped areas will be seeded and allowed to revert to vegetated communities; those within the MTA right-of way will be periodically mowed/maintained. Measures will be taken to minimize secondary impacts such as erosion and siltation.

Much of the proposed work will take place within the existing MTA right-of way. However, permanent and temporary right of way impacts are anticipated to two properties along the west side of the project (see Attachment 2: Design Plans and Project Impacts). Temporary impacts to the properties at the northeast and southwest of the Project may also be needed and will be determined during final design.

Coordination with federal and state natural resource agencies and tribes has taken place and is provided in Attachment 6. Aside from Northern Long-eared Myotis, the coordination did not reveal any concerns regarding tribal interests, or cultural resources of historic importance within the proposed Project site (see Supplemental Information, Block 26 for a summary of coordination efforts). No work will be performed within Federal Emergency Management Agency (FEMA) designated floodplain areas.

Construction Timing

The construction contract is anticipated to be awarded in November 2018. On-site construction activities would begin in February 2019 and would continue through November 2020 without any shut-down or dormant periods; additional minor efforts (e.g., final seeding and pavement markings) may occur in the early spring of 2021. Work on the western half of the new bridge is anticipated to occur in 2019, demolition of the existing structure is anticipated to occur over the winter of 2019-2020, and construction of the eastern half of the new bridge is anticipated to occur in 2020.

The following is an estimated/approximate sequence of work. The contractor is ultimately responsible for developing a schedule that meets their desired workflow while adhering to project environmental permits and contract completion dates.

1. Clear the site of trees, brush, and vegetation – February to March 2019
2. Phase I Construction, West Half of the Bridge – March 2019 to October 2019
    a. Ground Improvement Measures – March 2019 to July 2019
    b. Construct Substructure Units – April 2019 to June 2019
    c. Construct Superstructure – June 2019 to September 2019
    d. Construct Approach Roadway Embankments – May 2019 to October 2019
3. Existing Bridge Demolition – November 2019 to March 2020
4. Phase II Construction, East Half of the Bridge – April 2020 to October 2020
    a. Construct Substructure Units – April 2020 to June 2020
    b. Construct Superstructure – June 2020 to September 2020
    c. Construct Approach Roadway Embankments – May 2020 to October 2020
5. Project Cleanup, Demobilization, and Revegetation – November 2020 to June 2021
6. Project Completion – June 2021

SUPPLEMENTAL INFORMATION - BLOCK 23 Avoidance and Minimization

The Project is being designed and will be conducted in accordance with the standards set forth in Maine DEP Chapter 305: Permit by Rule for State Transportation Facility activities to minimize environmental impacts from the Project.

Impacts were further reduced by minimizing the Project footprint to the greatest extent possible per safety and design specifications (see Attachment 2: Design Plans and Project Impacts); resulting in a significant reduction in freshwater wetland impacts from the anticipated 20,435 sq ft to 14,904 sq ft. Specific adjustments included use of side slopes of 2:1 and guardrails along the turnpike, instead of a more gradual slope with a wider base, to minimize impacts to wetlands located along the toe of slope.

Minimization efforts focused primarily on limiting the necessary raise in vertical profile, which is required to accommodate deeper beams (longer bridge spans) and the currently substandard under clearance. Profile grades generally match existing conditions. However, the bridge girders are recommended to be proportioned with a shallow web, near AASHTO minimum recommendations, to also alleviate unnecessary profile elevation increases.

To help limit lateral embankment impacts, side slopes are generally provided at 2H:1V, which is the steepest feasible sides slope without the use of slope reinforcement or riprap. Due to the need for geofoam within the embankments, the use of slope reinforcement or riprap would require an increased earthen cover above the geofoam, which would result in deeper excavations and widened impacts to offset settlement concerns.

SUPPLEMENTAL INFORMATION - BLOCK 25 Adjoining Landowners

As shown in Attachment 5, seven properties are located adjacent to the proposed Project activities and include the following landowners:

State of Maine
Map R037, Lot 61
8 Cummings Rd

Willowdale Road LLC
Map R037, Lot 60
6 Cummings Rd

Harry and Margaret White
Map R037, Lot 65
135 Running Hill Rd

Dayton Hudson Corp.
Map R037, Lot 62
7 Cummings Rd

JPLC Enterprises
Map R037, Lot 43
486 Payne Rd

Cowabunga LLC
Map R037, Lot 41
482 Payne Rd

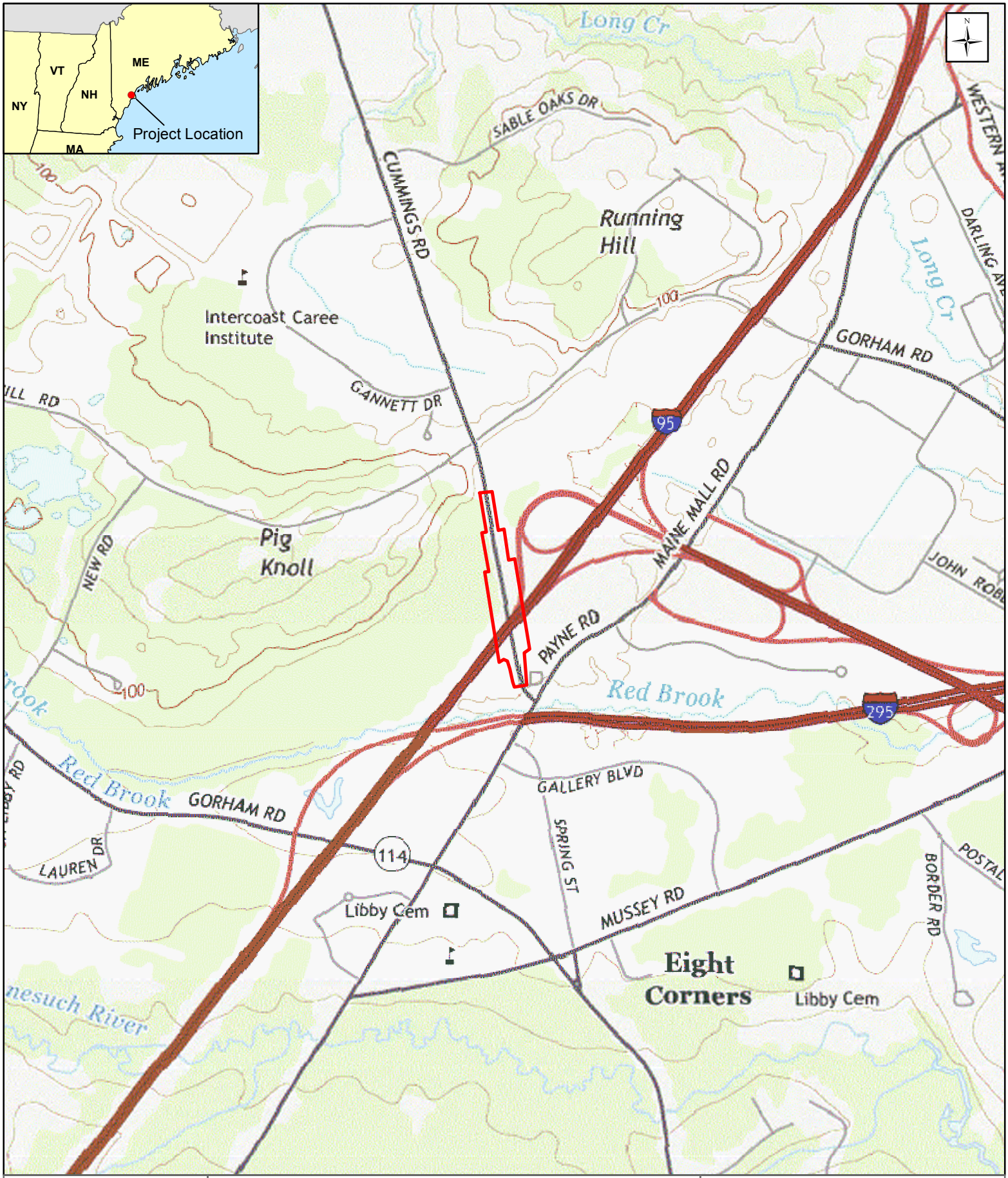
Portland Ventures
Map R037, Lot 40
2 Cummings Rd

SUPPLEMENTAL INFORMATION - BLOCK 26 Agency Coordination

Natural and cultural resource agencies and tribes were contacted to request a review of the Project to identify concerns relating to resources within each agency/tribal area of interest or oversight. Based on the input received, and the avoidance/minimization measures taken, the Project is not expected to cause significant impacts to protected natural or cultural resources or floodplains. Attachment 6: Agency Coordination, provides supporting documents relating to the following communications.

Agency/Tribe	Individual Contacted	Contact Type and Summary of Response Received
US Fish and Wildlife Service (USFWS)	IPAC	Online Review. USFWS identified northern long-eared bat as potential federally-listed species in the Project area. Approximately 67,107 sq ft (1.54 ac) of forested habitat would be affected by the Project as currently designed. Efforts were taken by MTA to reduce the project footprint to the greatest extent possible. Moving the alignment elsewhere would have affected additional palustrine forest wetland habitat and/or a private residence. No known hibernaculum or roosting areas are known to occur within 0.25 mile of the project area. Additionally, MTA will NOT perform any tree removal activities between June 1 through July 31.
Maine Historic Preservation	Kirk Mohney	Letter. No concerns expressed.
Passamaquoddy Tribe of Indians (Pleasant Point and Indian Township Reservations)	Donald Soctomah	Email/Letter sent to both entities. No concerns expressed.
Penobscot Nation	Chris Sockalexis	Email/Letter. No concerns expressed.
Houlton Band of Maliseet	Susan Young	Email/Letter. No response received.
Aroostook Band of Micmacs	Edward Peter-Paul	Email/Letter. No response received.
USACE, MaineDEP	Jay Clement, Audie Arbo, Bob Green	Site visit to evaluate jurisdictional status of wetlands, stream and stormwater features. The ephemeral feature proposed for realignment was confirmed to be a non-jurisdictional stormwater drainage ditch.

ATTACHMENT 1 **Project Location Map**



Prepared For: HNTB

Prepared By: NewEarth

Legend

Estimated Project Boundary

0 500 1,000 2,000 3,000 Feet

Figure 1. Site Location and Topography

Cummings Road Bridge Underpass Replacement Project
South Portland, Maine

Source: USGS 2014

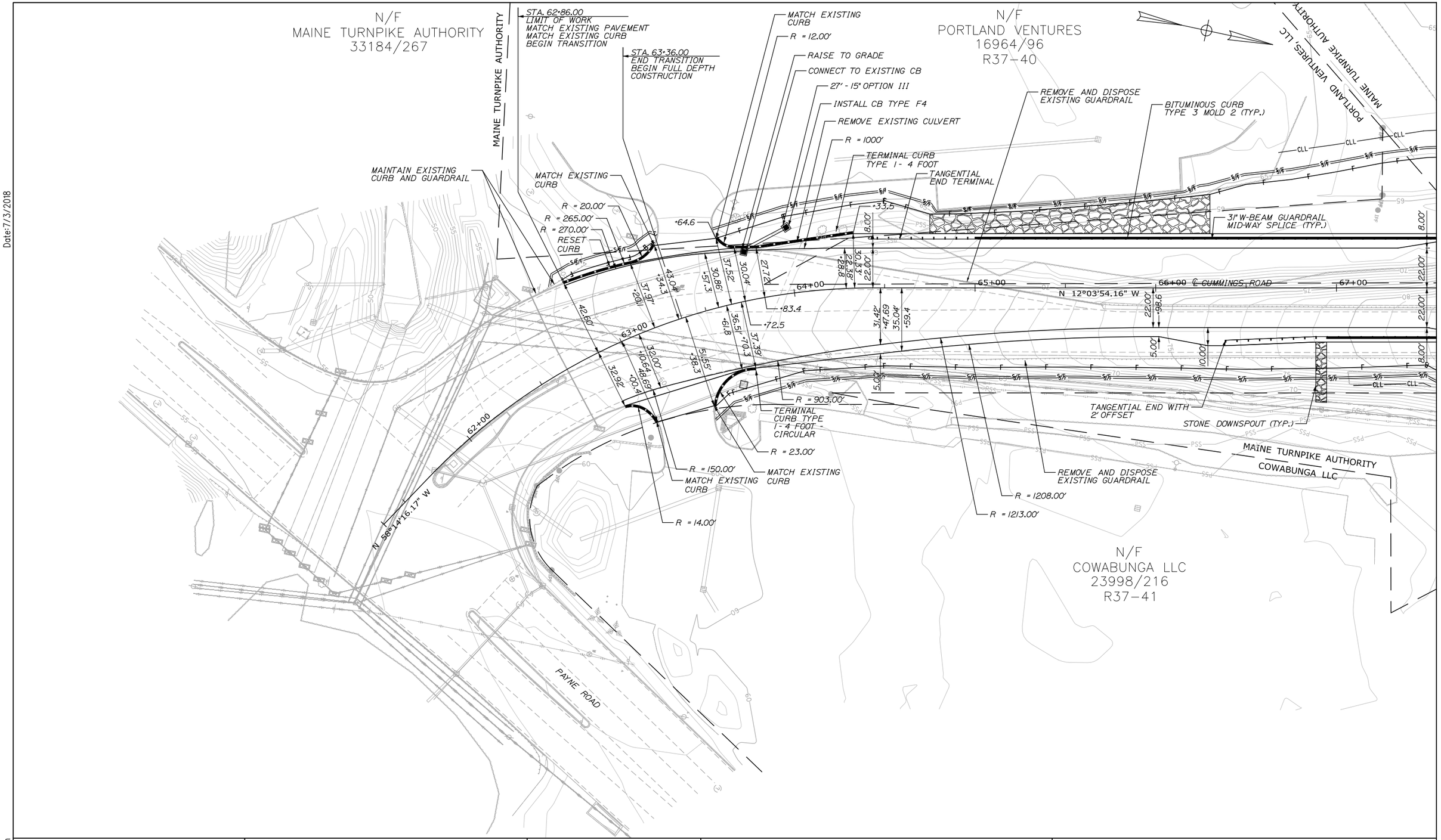
Date: 7/17/2017

ATTACHMENT 2 Design Plans, Cross-sections and Project Impacts

As shown on the attached design plans and cross-sections, the primary activities for the Cummings Road Bridge Underpass Project include:

- Removal of the existing two lane, four span steel girder structure measuring approximately 28.67-ft wide and 280-ft long.
- Construction of a new four lane, three span steel girder structure measuring approximately 57-ft wide and 433-ft long.
- Roadway embankment widening with the use of light-weight, expanded polystyrene fill (geofoam) with an approximate 30-ft width and 1,150-ft length.
- Roadway reconstruction along the existing embankment with an approximate 30-ft width and 1,150-ft length.
- Installation of new guardrail and curb within the roadway limits.
- Installation of four stone ditch downspouts along the roadway sideslopes.
- Relocation of approximately 700-ft of a roadside ditch.
- Installation of a new catch basin and 26-ft of 15” HDPE drain pipe connecting to an existing catch basin with a modified rim elevation.
- Reconfiguration of approximately 600-ft of roadside ditches along I-95.
- Temporary pavement widening on I-95 and Cummings Rd for maintaining traffic during construction.
- Construction of three paved driveway entrance aprons.

Date:7/3/2018



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Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

PLAN 1

SHEET NUMBER: PL-01

CONTRACT:2018.09

17 OF 101

Date:7/3/2018

N/F
BLUESKY HOLDINGS INC.
32061/300
R37-66

N/F
HARYY & MARGARET WHITE
6323/295
R37-65

N/F
JPLC ENTERPRISES
13923/273
R37-43

℄ CUMMINGS RD. STA. 70+00.00 =
℄ MAINE TURNPIKE STA. 2207+60.01

2205+00

2206+00

2207+00

2208+00

2209+00

2210+00

SOUTHBOUND

NORTHBOUND

MAINE TURNPIKE ℄

PORTLAND MAINE TURNPIKE

MAINE TURNPIKE AUTHORITY

HARRY & MARGARET A WHITE

40°41'12.53"

N 12°03'54.16" W

N 37°14'53.31" E

℄ CUMMINGS ROAD

EQUALS 2207+93.10
EQUALS 2207+93.23

2208+66.30
87.89' LT
Elev. = 65.43

2208+00
87.89' LT
Elev. = 63.75

REMOVE AND RESET FENCING FOR SWALE CONSTRUCTION

STONE DOWNSPOUT (TYP.)

MATCH INTO EXISTING RIPRAP SWALE

APPROACH SLAB (TYP.)

BRIDGE TRANSITION TYPE III (TYP.)

REMOVE AND DISPOSE EXISTING GUARDRAIL

BITUMINOUS CURB TYPE 3 MOLD 2 (TYP.)

31" W-BEAM GUARDRAIL MID-WAY SPLICE (TYP.)

REMOVE AND DISPOSE EXISTING GUARDRAIL

EXIT 45 SB ON RAMP

8.00'

22.00'

67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00

SPAN 1 = 172'-0" SPAN 2 = 107'-0" SPAN 3 = 154'-0"

℄ BRG. ABUT. 1
STA. 68+28.00

℄ BRG. PIER 1
STA. 70+00.00

℄ BRG. PIER 2
STA. 71+07.00

℄ BRG. ABUT. 2
STA. 72+61.00

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No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

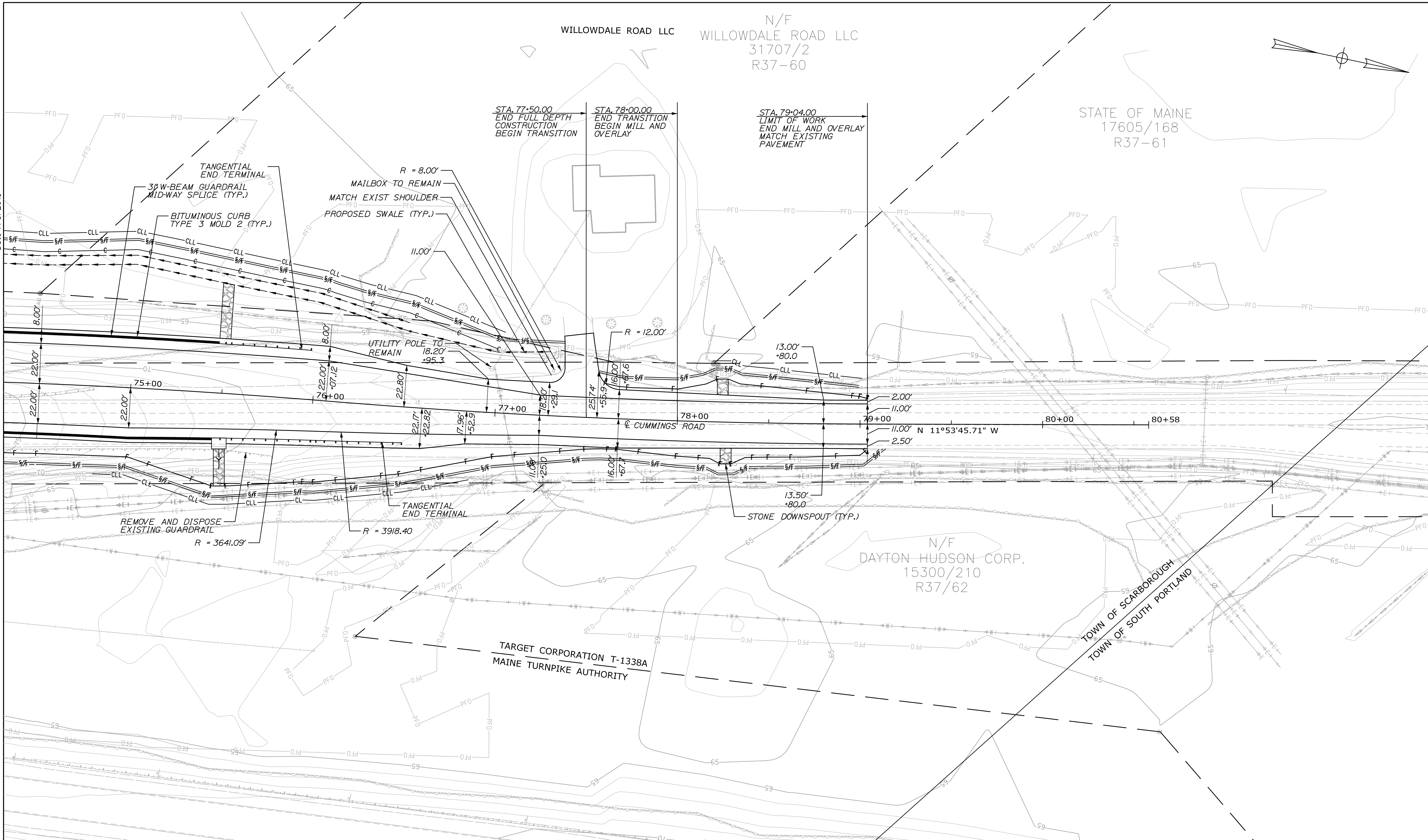
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

PLAN 2

SHEET NUMBER: PL-02

CONTRACT:2018.09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N/F
WILLOWDALE ROAD LLC
31707/2
R37-60
STATE OF MAINE
17605/168
R37-61
STA. 77+50.00
END FULL DEPTH
CONSTRUCTION
BEGIN TRANSITION
STA. 78+00.00
END TRANSITION
BEGIN MILL AND
OVERLAY
STA. 79+04.00
LIMIT OF WORK
END MILL AND OVERLAY
MATCH EXISTING
PAVEMENT
TANGENTIAL
END TERMINAL
31" W-BEAM GUARDRAIL
MID-WAY SPLICE (TYP.)
BITUMINOUS CURB
TYPE 3 MOLD 2 (TYP.)
R = 8.00'
MAILBOX TO REMAIN
MATCH EXIST SHOULDER
PROPOSED SWALE (TYP.)
11.00'
R = 12.00'
UTILITY POLE TO
REMAIN
18.20'
+95.3
13.00'
+80.0
75+00
76+00
77+00
78+00
79+00
80+00
80+58
℄ CUMMINGS ROAD
N 11°53'45.71" W
2.00'
11.00'
11.00'
2.50'
13.50'
+80.0
TANGENTIAL
END TERMINAL
STONE DOWNSPOUT (TYP.)
REMOVE AND DISPOSE
EXISTING GUARDRAIL
R = 3641.09'
R = 3918.40
N/F
DAYTON HUDSON CORP.
15300/210
R37/62
TARGET CORPORATION T-1338A
MAINE TURNPIKE AUTHORITY
TOWN OF SCARBOROUGH
TOWN OF SOUTH PORTLAND

Date: 7/3/2018

Filename: 019_HDPlan_03.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

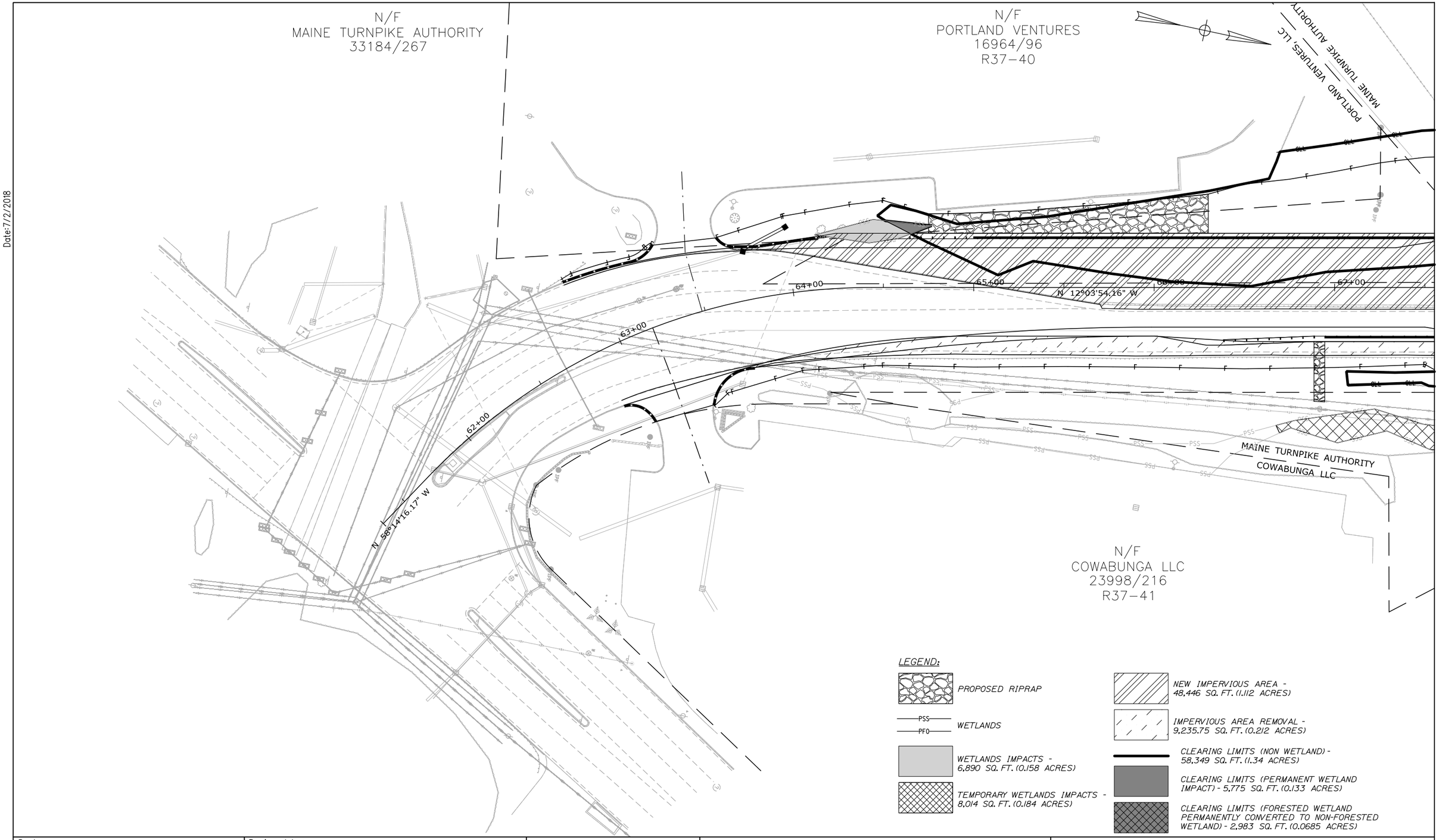
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

PLAN 3

SHEET NUMBER: PL-03

CONTRACT: 2018.09

Date:7/2/2018



LEGEND:

- *PROPOSED RIPRAP*
- PSS / PFO — *WETLANDS*
- *WETLANDS IMPACTS - 6,890 SQ. FT. (0.158 ACRES)*
- *TEMPORARY WETLANDS IMPACTS - 8,014 SQ. FT. (0.184 ACRES)*
- *NEW IMPERVIOUS AREA - 48,446 SQ. FT. (1.112 ACRES)*
- *IMPERVIOUS AREA REMOVAL - 9,235.75 SQ. FT. (0.212 ACRES)*
- *CLEARING LIMITS (NON WETLAND) - 58,349 SQ. FT. (1.34 ACRES)*
- *CLEARING LIMITS (PERMANENT WETLAND IMPACT) - 5,775 SQ. FT. (0.133 ACRES)*
- *CLEARING LIMITS (FORESTED WETLAND PERMANENTLY CONVERTED TO NON-FORESTED WETLAND) - 2,983 SQ. FT. (0.0685 ACRES)*

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

ENVIRONMENTAL IMPACTS PLAN 1

SHEET NUMBER: EP-01

CONTRACT:2018.09

Filename: 0XX_Env_01.dgn

Date:7/2/2018

N/F
BLUESKY HOLDINGS INC.
32061/300
R37-66

N/F
HARYY & MARGARET WHITE
6323/295
R37-65

N/F
JPLC ENTERPRISES
13923/273
R37-43

PORTLAND MAINE TURNPIKE

MAINE TURNPIKE AUTHORITY

HARRY J & MARGARET A WHITE

2205+00

2206+00

2207+00

2208+00

2209+00

67+00

68+00

69+00

70+00

71+00

72+00

73+00

74+00

N 12°03'54.16" W

N 37°14'33.31" E

EQN BK 2207+93.10
EQN AHD 2207+93.23

LEGEND:

- *PROPOSED RIPRAP*
- PSS / PFO — *WETLANDS*
- *WETLANDS IMPACTS - 6,890 SQ. FT. (0.158 ACRES)*
- *TEMPORARY WETLANDS IMPACTS - 8,014 SQ. FT. (0.184 ACRES)*
- *NEW IMPERVIOUS AREA - 48,446 SQ. FT. (1.112 ACRES)*
- *IMPERVIOUS AREA REMOVAL - 9,235.75 SQ. FT. (0.212 ACRES)*
- *CLEARING LIMITS (NON WETLAND) - 58,349 SQ. FT. (1.34 ACRES)*
- *CLEARING LIMITS (FORESTED WETLAND PERMANENTLY CONVERTED TO NON-FORESTED WETLAND) - 2,983 SQ. FT. (0.0685 ACRES)*
- *CLEARING LIMITS (PERMANENT WETLAND IMPACT) - 5,775 SQ. FT. (0.133 ACRES)*

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

ENVIRONMENTAL IMPACTS PLAN 2

SHEET NUMBER: EP-02

CONTRACT:2018.09

Filename: 0XX_Env_02.dgn

WILLOWDALE ROAD LLC

N/F
WILLOWDALE ROAD LLC
31707/2
R37-60

STATE OF MAINE
17605/168
R37-61

N/F
DAYTON HUDSON CORP.
15300/210
R37/62

TOWN OF SCARBOROUGH
TOWN OF SOUTH PORTLAND

TARGET CORPORATION T-1338A
MAINE TURNPIKE AUTHORITY

75+00
76+00
77+00
78+00
79+00
80+00
80+58
N 11°53'45.71" W

LEGEND:

- PROPOSED RIPRAP
- PSS / PFO — WETLANDS
- WETLANDS IMPACTS - 6,890 SQ. FT. (0.158 ACRES)
- TEMPORARY WETLANDS IMPACTS - 8,014 SQ. FT. (0.184 ACRES)
- NEW IMPERVIOUS AREA - 48,446 SQ. FT. (1.112 ACRES)
- IMPERVIOUS AREA REMOVAL - 9,235.75 SQ. FT. (0.212 ACRES)
- CLEARING LIMITS (NON WETLAND) - 58,349 SQ. FT. (1.34 ACRES)
- CLEARING LIMITS (PERMANENT WETLAND IMPACT) - 5,775 SQ. FT. (0.133 ACRES)
- CLEARING LIMITS (FORESTED WETLAND PERMANENTLY CONVERTED TO NON-FORESTED WETLAND) - 2,983 SQ. FT. (0.0685 ACRES)

Date:7/2/2018

Filename: 0XX_Env_03.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
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BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

ENVIRONMENTAL IMPACTS PLAN 3

SHEET NUMBER: EP-03

CONTRACT:2018.09

ATTACHMENT 3 Erosion and Sediment Control

Per MTA's memorandum of agreement (MOA), MTA agrees to comply with the Stormwater Management and Erosion Control Standards outlined in the MOA to achieve stormwater quality and quantity controls reasonably consistent with the standards identified per MEDEP Chapter 500 Stormwater Management Rules. As identified in the attached Erosion and Sediment Control Plan (ESCP) and specifications, measures will be taken to prevent unreasonable erosion of soil or sediment beyond the site or into a protected natural resource, such as a river, stream, brook, lake, pond, or wetland and will ensure appropriate stormwater standards are met.

The attached ESCP and specifications will be provided to contractors to establish the minimum acceptable requirements which must be met before any ground-disturbing Project activities may begin. The plan identifies the temporary physical, structural, and managerial practices that will be used to prevent soil erosion and prevent or reduce the potential for sediment movement and discharge into protected natural resources and follows the recommendations and guidelines of MDEP's 2016 Erosion and Sediment Control Best Management Practices (BMP) Manual.

Additionally, while the attached ESCP and specifications provide the minimal acceptable practices, the selected contractor will be required to submit a contractor-prepared *Soil Erosion and Water Pollution Control Plan (SEWPCP)* prior to construction for MTA approval. The plan must provide specifications and details for the installation and implementation of cofferdams, pumps, dewatering, and soil erosion and sedimentation control measures per MDEP's BMP's and the attached ESCP's, while allowing flexibility to apply the most appropriate measures based on site-specific conditions, the construction sequence, timing and weather. MTA personnel and their representatives will ensure that the procedures contained in the contractor-prepared ESCP are followed by regularly inspecting all work and requiring corrective action when necessary.

SUPPLEMENTAL SPECIFICATION

SECTION 656

TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

Section 656 of the Standard Specifications is deleted in its entirety and replaced with the following:

656.01 Description

This work shall consist of providing temporary erosion and water pollution control during construction in accordance with these Specifications, standard details, Best Management Practices, or as otherwise directed.

The Contractor shall certify in writing to the Resident that an On-Site Responsible Party (OSRP) has been trained and is knowledgeable in erosion and sediment control (ECS) through the MaineDEP's Non-Point Source Training Center, or an equivalent program, or is licensed in the State of Maine as a Professional Engineer, Landscape Architect or Soil Scientist. Proof of certification for the OSRP, and any other Contractor employees charged with conducting ESC inspections, must be submitted to the Authority's Environmental Coordinator prior to starting work.

The Project will be performed in accordance with the MaineDOT Best Management Practices (BMP) latest issue. The Contractor shall fully comply with all erosion and sedimentation control requirements outlined in the BMP's or contained herein. Non-compliance with these requirements as determined by the Resident shall result in a financial penalty of $1,000 per day, per violation. Any fines assessed to the Maine Turnpike Authority as a result of the Contractor's non-compliance shall be paid by the Contractor. If the Contractor fails to pay, the cost of the fine will be deducted from monies due, or which may become due, to the Contractor under this Contract.

In the event of conflict between these Specifications and other erosion and pollution control laws, rules or regulations of other Federal, State and local agencies, the more restrictive law, rules or regulations shall apply.

The standards as described below shall be met on the Project:

Water Pollution Control Requirements

(a) General

1. The Contractor must comply with the applicable Federal, State and local laws and regulations relating to prevention and abatement of water pollution.
2. Except as allowed by an approved permit or otherwise authorized by the Authority in writing, pollutants containing construction debris including excavated material, aggregate, residue from cleaning, sandblasting or painting, cement mixtures,

chemicals, fuels, lubricants, bitumens, raw sewage, wood chips, and other debris shall not be discharged into water bodies, wetlands or natural or manmade channels leading thereto and such materials shall not be located alongside water bodies, wetlands, or such channels such that it will be washed away by high water runoff. Furthermore, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in the areas of the site draining to an infiltration area, unless these portions of the site (where storage and handling of these materials) are isolated using dikes, berms, sumps and other forms of secondary containment that prevent discharge to groundwater.

3. Temporary winter stabilization must be used between November 1st and April 15th or outside of said time period if the ground is frozen or snow covered. Temporary winter stabilization involves, at a minimum, covering all disturbed soils and seeded ground that is not Acceptable Work with an approved method. Use of these methods for over-winter temporary erosion control will be paid for under the appropriate Erosion Control items included in the Contract.
4. Construction operations in water bodies or wetlands shall be restricted to the construction limits shown on the Plans and to those areas that must be entered for the construction of temporary or permanent structures, except as allowed by approved permit or otherwise authorized by the Authority in writing. Mechanized equipment shall not be operated in water bodies or wetlands except as allowed by approved permit or otherwise authorized by the Authority in writing.
5. Upon completion of the work, water bodies or wetlands shall be promptly cleared of all falsework, piling, debris or other obstructions caused by the construction operations, except as allowed by approved permit or otherwise authorized by the Authority in writing.

(b) Earthwork

If earthwork disturbance is part of the Project scope:

1. Erosion control blanket shall be installed in the bottom of all ditches except where a stone lining is planned. Seed shall be applied prior to the placement of the blanket.
2. Permanent slope stabilization measures shall be applied within one (1) week of the last soil disturbance. Newly seeded or sodded areas must be protected from vehicle traffic, excessive pedestrian traffic, and concentrated runoff until the vegetation is well-established. If necessary, areas must be reworked and restabilized if germination is sparse, plant coverage is spotty, or topsoil erosion is evident.
3. Dust control items, other than those under Standard Specification Section 637, Dust Control, if applicable, shall be included in the plan.

Construction Requirements

1. All temporary erosion control devices shall be in place and approved by the Resident prior to any operations resulting in disturbed area. Prior to construction, the Contractor shall properly install sediment barriers (e.g., silt fence) at the edge of any downgradient disturbed area and adjacent to any drainage channels within the distrubed area
2. The Contractor is responsible for all temporary drainage and erosion control measures. The Contractor shall review his construction operations and staging to determine if additional erosion control measures are required. The Resident may also request additional erosion control measures. The cost for all erosion control devices necessary, due solely to the Contractor's construction operations and not shown on the Plans, shall be borne solely by the Contractor.
3. Inspections shall be conducted (1) at least once a week as well as before and after a storm event and prior to completing permanent stabilization measures; and (2) by a person knowledgeable of erosion and stormwater control, including the standards and conditions in the permit if applicable.
4. The Contractor shall maintain all measures in effective operating condition until areas are permanently stabilized. If BMPs need to be modified (i.e., corrective action, additional BMPs installed, etc.), implementation must be completed within seven (7) calendar days and prior to any storm event.
5. Temporary erosion control measures shall be maintained until the site is permanently stabilized with vegetation or other permanent control measures.
6. The Contractor will immediately take appropriate measures to prevent erosion or sedimentation from occurring or to correct any existing problems regardless of the time of year.
7. During periods of approved suspension, the Contractor shall inspect and maintain temporary and permanent erosion and sedimentation controls.
8. Work in wetlands is prohibited except to the minimum extent necessary for completion of the work as detailed on the Plans. Excavated and other material shall not be stockpiled in wetlands. Haybales, silt fence or other suitable barriers shall be used, where necessary, to prevent sedimentation from eroding materials.
9. Disturbance of natural resources beyond the construction limits shown on the Plans is not allowed.
10. Existing ditches shall be maintained until the new ditches are stabilized. Stone check dams shall be placed in existing ditches prior to construction as to prevent the release of sedimentation. Stone check dams shall be installed at the outlets of all existing and proposed ditches adjacent to all stream and wetlands.
11. For proposed ditches, stabilize the outlet first and build from the bottom up. Only excavate what can be stabilized or protected by the end of the work day.
12. Before permitting permanent channels to carry water, they shall be stabilized. This may require the installation of temporary erosion control BMP’s or temporarily diverting flows.
13. All cross culvert outlets shall be armored before the end of the work day.
14. The Contractor’s operation may require the placement of temporary pipes and fill over a ditch line to provide access to the work area. The Resident shall approve the size of

the pipe. The placement and removal of the temporary access shall not be measured for payment and shall be incidental to the Excavation item.

15. Bare earth slopes shall be roughened to dissipate sheet flow. This shall be accomplished by "tracking" the slope perpendicular to the centerline. This work will not be measured separately for payment, but shall be incidental to the Excavation item.
16. Uncured concrete shall not be placed directly into the water body. Concrete may be placed in forms and shall cure at least one (1) week prior to form removal. No washing of tools, forms, etc. shall occur in or adjacent to the water body or wetland.
17. The Contractor shall contain all demolition debris (including debris from wearing surface removal, sawcut slurry, dust, etc.) and shall not allow it to discharge to any resource. Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source. The Contractor shall dispose of debris in accordance with Maine Solid Waste Law, Title 38 M.R.S.A., Section 1301 et. seq.
18. No wheeled or tracked equipment shall be operated in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may NOT cross streams.
19. The Contractor shall not remove rocks from below the normal high water line of any wetland, great pond, river, stream or brook, except to the extent necessary for completion of the work and as allowed by environmental permits.

Spill Prevention Control and Countermeasure (SPCC) Plan

Any areas where petroleum products, oils or non-petroleum hazardous materials are handled or stored will require a Spill Prevention Control and Countermeasure (SPCC) Plan. These materials may not be stored or handled in areas of the site draining to an infiltration area. The Plan will be submitted to the Resident before construction begins. In addition to petroleum products and hazardous materials, controls must be used to prevent additional pollutants (i.e., fertilizers, pesticides, salt/brine, litter, construction demolition debris, etc.) from being discharged from materials on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation. The Plan shall provide the following information at a minimum:

1. The name and emergency response numbers (telephone number, cellular phone and pager numbers, if applicable) of the Contractor's representative responsible for spill prevention and response;

2. Description of handling or storage location noting setbacks from water bodies where relevant. Significant sand and gravel aquifers and other sensitive resources, including infiltration areas, must be avoided wherever possible;

3. Description of storage and containment facilities, such as dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater or surface water;

4. Description of equipment and/or materials used to prevent discharges (including sorbent materials);

5. Preventative measures to minimize the possibility of a spill; and,

6. Contingency plan if spill should occur.

The approved plan must be posted at the Project site. All personnel working in the area are required to read and be familiar with the plan.

There shall be no separate payment for preparation of a SPCC Plan acceptable to the Resident and preparation shall be incidental to the work.

Notification of Authority of Hazardous Material Spills

In addition to MaineDEP reporting requirements for spills greater than five (5) gallons, the Contractor shall notify the on-site Resident Inspector. The on-site Resident Inspector shall notify the Maine Turnpike Radio Room at 207-871-7701. When the on-site Resident Inspector is not available, the Contractor shall notify the Maine Turnpike Radio Room directly at 207-871-7701.

In addition to MaineDEP reporting requirements for all spills where any stream or water body is threatened, the Contractor shall notify the on-site Resident Inspector. The on-site Resident Inspector shall notify the Maine Turnpike Radio Room at 207-871-7701. When the on-site Resident Inspector is not available, the Contractor shall notify the Maine Turnpike Radio Room directly at 207-871-7701.

These notification procedures shall be incorporated into the Spill Prevention Control and Countermeasure (SPCC) Plan.

Responsibility for Control and Cleanup of Hazardous Material Spills

The Contractor shall be responsible to control spills and properly cleanup, containerize, and dispose of petroleum and/or other hazardous material waste that results from the actions and/or equipment of the Contractor or his employees, subcontractors and suppliers. Chemicals, exposed to stormwater must be prevented from becoming a pollutant source.

The Contractor shall also be responsible for all direct and indirect costs associated with the control of spills and proper cleanup, containerization, and disposal of petroleum and/or other hazardous material waste that results from the actions and/or equipment of the Contractor or his employees, subcontractors and suppliers.

656.02 Temporary Erosion and Sedimentation Control Devices - Materials

The Contractor shall install and maintain all temporary erosion and sedimentation control materials in accordance with the manufacturer's recommendations or the latest BMP’s.

1. Baled hay shall be bales at approximately 14 by 18 by 30 inches, or an equivalent, securely tied to form a firm bale.
2. Flexible drainage pipe shall consist of collapsible neoprene pipe, a minimum of 12 inches in diameter or equal.
3. Silt Fence

    (a) Posts - Either hardwood posts or steel posts shall be used. Hardwood posts shall be straight, at least 18 inches longer than the height of the silt fence and at least one inch by one inch.

    Staples shall be of No. 9 wire.

    Steel posts shall be at least 18 inches longer than the height of the silt fence and have the means provided for fastening wire to the fence.

    (b) Wire Support Fence - If required, wire support fence shall be at least two inches higher than the height of the silt fence. Horizontal and vertical wires shall be spaced no more than six inches apart. The top and bottom wires shall be at least 10 gauge; all other wires at least 12 gauge.

    (c) Fabric - The woven geotextile fabric and components shall be made from polypropylene, polyester, polymide or other chemically stable material and be resistant to ultraviolet radiation degradation for at least 12 months of installation. Silt retention capacity shall be no less than 75 percent. The fabric shall have a Mullen burst test of no less than 260 pounds per square inch with a maximum average sieve opening size of No. 20 to No. 60. Roll width of the fabric shall be no less than six inches wider than the height of the fence, except fabric for boom supported floating silt fence which shall be no less than two feet wider than the design width.

    (d) Flotation Devices – Boom supported floating silt fence shall consist of suitable, flexible plastic or synthetic rubber barrier supported on the top (or floated on the top using six inch "minimum" Styrofoam logs) and sides, and weighted or anchored on the bottom to form a continuous vertical barrier to contain within the designated area(s), silt and clay-size particles suspended or carried by water. The flotation boom and weighing devices for boom supported floating silt fence shall be sufficient to hold the fence in an approximately vertical position.

656.03 Temporary Erosion and Sedimentation Control Devices - General

Temporary Erosion Checks - Temporary erosion checks shall be constructed in ditches and at other locations designated. Checks shall be in accordance with the Standard Detail unless otherwise directed.

Baled hay shall be used in other areas as necessary to inhibit soil erosion.

During winter construction, November 1st through April 15th, all areas being constructed within 75 feet of a protected natural resource shall be protected with a double row of silt fence.

Sediment deposits behind haybales and silt fence shall be removed when the depth of sediment reaches 50 percent of the erosion control device height.

The Contractor is also required to have on-site, at all times, 25 percent additional Contract quantities of silt fence for use as backup devices.

656.04 Temporary Erosion and Sedimentation Control Devices – Construction Requirements

1. Erosion Control Filter Berm

   The Contractor may opt to furnish and install an erosion control filter berm in lieu of silt fence. The erosion control filter berm shall be a water permeable windrow of a composted bark mix to remove suspended soil particles from water moving off the site. Erosion control filter berm shall be considered an erosion control device. The material and specific application shall be submitted to the Resident for approval.

   The erosion control berm shall be placed uncompacted, in a windrow in locations approved by the Resident. The cross section of the berm shall be four feet wide at the base and 1-1/2 feet high at the center. The erosion control filter berm shall be removed when no longer required, as determined by the Resident, and shall be distributed over an adjacent area.

2. Temporary Berms

   When designated, temporary barriers shall be constructed along the edge of the embankment. The barriers shall be of embankment earth material, gravel or sand as available and shaped approximately as shown in the Standard Details. The barriers shall be compacted with the wheels of construction equipment. When placed on pavement, the berms shall be constructed of asphalt grindings or other non-erodible soil material as approved by the Resident, and shaped as shown in the Standard Details.

   At designated intervals, temporary slope drains shall be constructed with a crescent shaped barrier placed at each slope drain to direct the water into the inlet pipe.

3. Temporary Slope Drains

   Collapsible pipe with corrugated metal pipe inlet shall be placed down the embankment slopes at designated locations and in accordance with the Best Management Practices. At the outlet end of the drain, dumped stone shall be placed to prevent scoring unless otherwise directed.

4. Silt Fence

The silt fence shall be installed downhill of disturbed slopes as shown on the Plans or as approved. The Contractor shall have the option to provide a reinforced filter fabric or an un-reinforced filter fabric attached to a wire fence.

The fence posts shall be spaced as specified by the Resident, however, not to exceed a maximum of eight feet [2.5 m] apart when either type of silt fence is used and be driven a minimum of 18 inches [450 mm] into the ground.

The geotextile fabric shall be secured to the post or fence by suitable staples, tie wire or hog rings in such a manner as to prevent tearing and sagging of the fabric. The bottom flap of the geotextile fabric shall be entrenched into the ground a minimum depth of six inches [150 mm] to prevent water from flowing under the fence. The geotextile shall be spliced together only at support posts with a minimum six inches [150 mm] overlap and secure post connection which prevents leakage of silt. The top of the geotextile shall be installed with a reinforced top end section.

The Contractor shall maintain the silt fence in a functional condition at all times. All deficiencies shall be immediately corrected by the Contractor. The Contractor shall make a daily inspection of silt fences in areas where construction activity causes drainage runoff, to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, additional silt fences shall be installed as approved or otherwise directed.

Sediment deposits shall be removed when sediments reach 50 percent of the height of the device. All sediment deposits remaining in place after the device is no longer required shall be graded to conform to the existing ground, seeded and mulched immediately.

Geotextile fabric which has decomposed or has become ineffective and is still needed shall be replaced with material equal to the original design.

5. Boom Supported Floating Silt Fence

Prior to starting any work within the river, the Contractor shall furnish and install a boom supported floating silt fence to completely surround the work area as shown on the Plans or as approved by the Resident. The boom supported floating silt fence shall remain in place a minimum of 48-hours after the completion of the work. The Contractor shall then remove the boom supported floating silt fence from the river.

The silt fence fabric shall be securely attached to the flotation boom with a continuous weight placed the entire length of the fence to maintain the fence in a vertical submerged position from the surface of the water to the design depth.

Anchor's shall be placed at the ends of the fence, and intermediate locations if

necessary, to hold the fence securely in place.

6. Temporary Mulch

Temporary stabilization with mulch or other non-erodable cover is required on all exposed soils that will not be worked for more than 7 days. Areas within 75 feet of a wetland or waterbody shall be stabilized within 48 hours of the initial disturbance of the soil or prior to any storm event, whichever comes first.

The Contractor is responsible for applying temporary mulch as necessary, in accordance with the latest edition of the BMP's, to minimize soil erosion prior to the application of the final slope treatment.

Temporary mulch applied during the winter months of November 1st through April 15th shall be applied at twice the standard temporary stabilization rate or 150 lbs. per 1,000 square feet or three tons/acre. Mulch shall not be spread on top of snow and shall be anchored with mulch netting on slopes steeper than eight percent unless erosion control blankets or erosion control mix is being used on the slopes.

The Contractor shall review his construction operations and staging to determine how much temporary mulching is required.

656.05 Temporary Erosion and Sedimentation Control Devices - Maintenance

The erosion control devices will be cleaned, repaired or replaced as necessary. All deficiencies shall be corrected immediately by the Contractor.

656.06 Temporary Erosion and Sedimentation Control Devices - Removing and Disposing

When disturbed areas have been permanently stabilized, temporary erosion control devices, including stone check dams, shall be removed. However, erosion control mix filter berms may be spread out, seeded and left to decompose. Areas disturbed during the removal of the erosion control devices shall be repaired and properly stabilized.

When removed, such devices may be reused in other locations provided they are in good condition and suitable to perform the erosion control for which they are intended. Reused devices, if approved, will be measured for payment.

656.07 Erosion Control Compliance Officer

The Contractor shall designate an Erosion Control Compliance Officer (CECCO) on this Project who shall be a "DEP Certified Contractor" or have had equivalent training approved by the Authority. The Contractor shall provide the Resident with the name of the CECCO and any phone numbers or pager numbers that can be used to contact the person in case of emergency.

Before commencing any work that could disturb soils or impact water quality, the CECCO must field review the Project with the Resident's ECCO (RECCO).

656.08 Inspection and Recordkeeping

The CECCO shall accompany the RECCO in the inspection of all erosion control devices. An inspection log shall be maintained by the Resident for the duration of the Project. The log will include daily on-site precipitation and air temperature as well as the performance, failure and/or any corrective action for all erosion and sedimentation controls in place. The log will be updated at least weekly and after all significant storm runoff or flood events. The log shall be signed by the RECCO and the CECCO after each inspection.

Failure to comply with the erosion and sedimentation control requirements herein or as directed by the RECCO within 24-hours after the violation is noted in the inspection log, will result in the $1,000 per day per violation penalty until the violation is corrected to the satisfaction of the Resident.

656.09 Method of Measurement

Baled hay will be measured for payment by the number of bales or bags satisfactorily placed.

Temporary berms and temporary slope drains will be measured for payment by the linear foot measured parallel with the flow line including the pipe inlet.

Temporary silt fence will be measured by the linear foot along the gradient of the fence, end post to end post.

Boom supported floating silt fence will be measured by the linear foot.

Erosion control filter berm shall be measured by the linear foot.

The quantity of additional haybales and silt fence material required herein will be measured for payment only when and if they are actually put to use as additional measures on the Project as approved by the Resident. Haybales and silt fence material used for maintenance or replacement of existing devices will not be measured for payment.

The removal of silt and other material from behind the erosion control devices will not be measured separately for payment, but shall be incidental to the Erosion Control items.

Temporary Mulch – See Section 619 Mulch.

656.10 Basis of Payment

The accepted quantity of baled hay or sandbags will be paid for at the Contract unit price each for each bale or bag which price shall be full compensation for furnishing and placing the bales or sandbags, for furnishing and driving the stakes for baled hay, for maintaining the bales, stakes or

sandbags, and for the removing and disposing of the bales, stakes or sandbags when no longer needed.

The accepted quantity of temporary berms will be paid for at the Contract unit price per linear foot of berm which price shall be full compensation for furnishing, placing and compacting material, for maintaining and for removing the berm when no longer needed.

There will be no separate payment for excavation in the construction of temporary erosion control items under this Section and all necessary excavation shall be incidental to the work.

The accepted quantity of dumped stone will be paid for at the Contract unit price per cubic yard which price shall be full compensation for furnishing the stone, transporting, placing and shaping. Payment for removal or for covering will be made under Item 629.05, Hand Labor, and the appropriate Equipment Rental items.

The accepted quantity of temporary silt fence and boom supported floating silt fence will be paid for at the Contract unit price per linear foot complete in place. Payment shall be full compensation for furnishing, installing, maintaining, anchoring, replacing deteriorated geotextile and clogged geotextile when required and for removing and disposing of the fence when no longer needed.

The accepted quantity of erosion control filter berm will be paid for at the Contract unit price per linear foot under Item 656.632, 30 Inch Temporary Silt Fence, which price shall be full compensation for furnishing, placing, maintaining, and removing the erosion control filter berm.

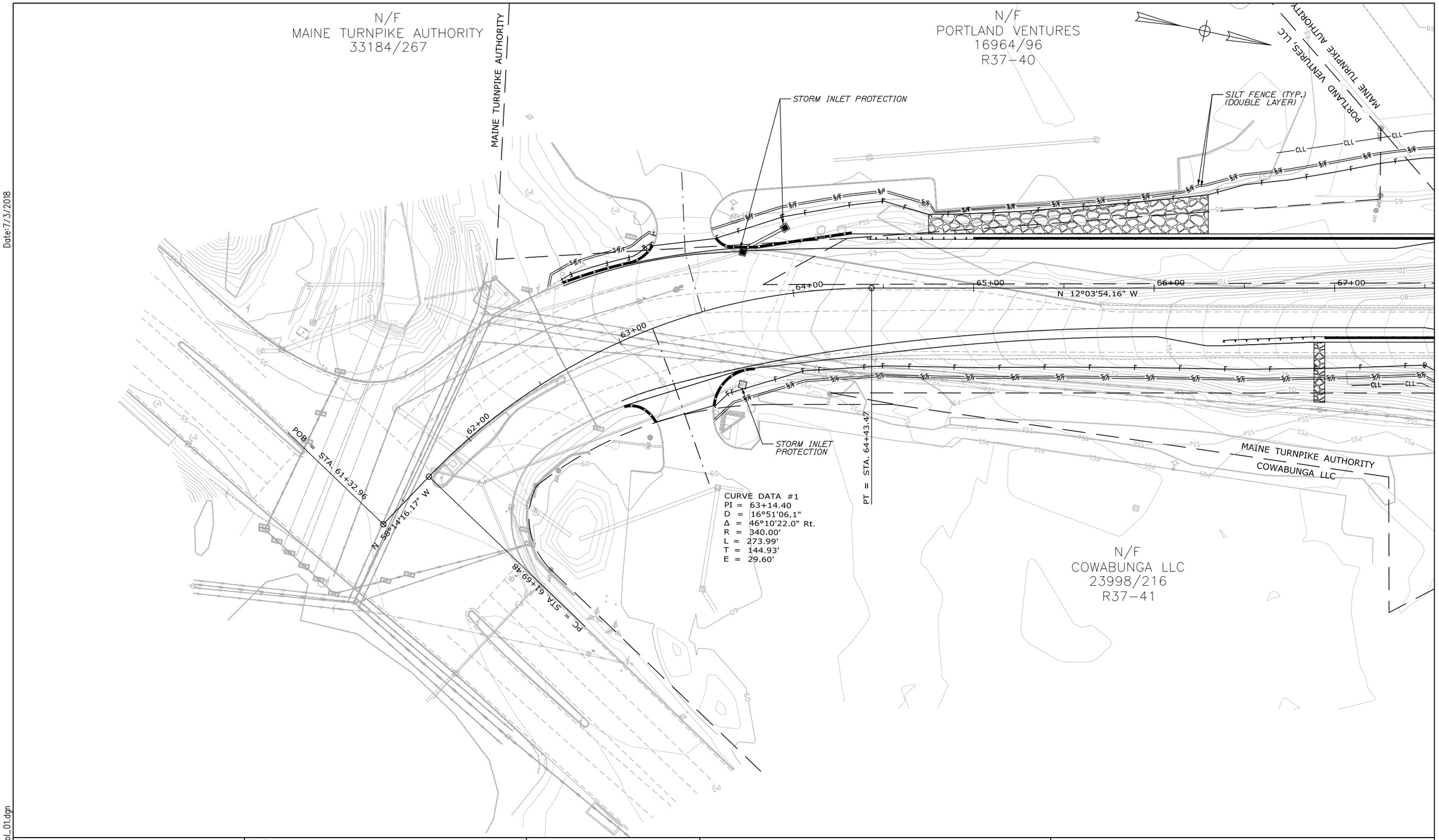
Cost of seeding and mulching the area after removal of the temporary silt fence will be paid for at the Contract unit prices for Item 618, Seeding, and Item 619, Mulch.

Temporary Mulch – See Section 619 Mulch.

Payment will be made under:

Pay Item		Pay Unit
656.50	Baled Hay, in place	Each
656.60	Temporary Berms	Linear Foot
656.62	Temporary Slope Drains	Linear Foot
656.632	30 inch Temporary Silt Fence	Linear Foot
656.64	Boom Supported Floating Silt Fence	Linear Foot

Date:7/3/2018



Scale:
25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
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MAINE TURNPIKE

THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

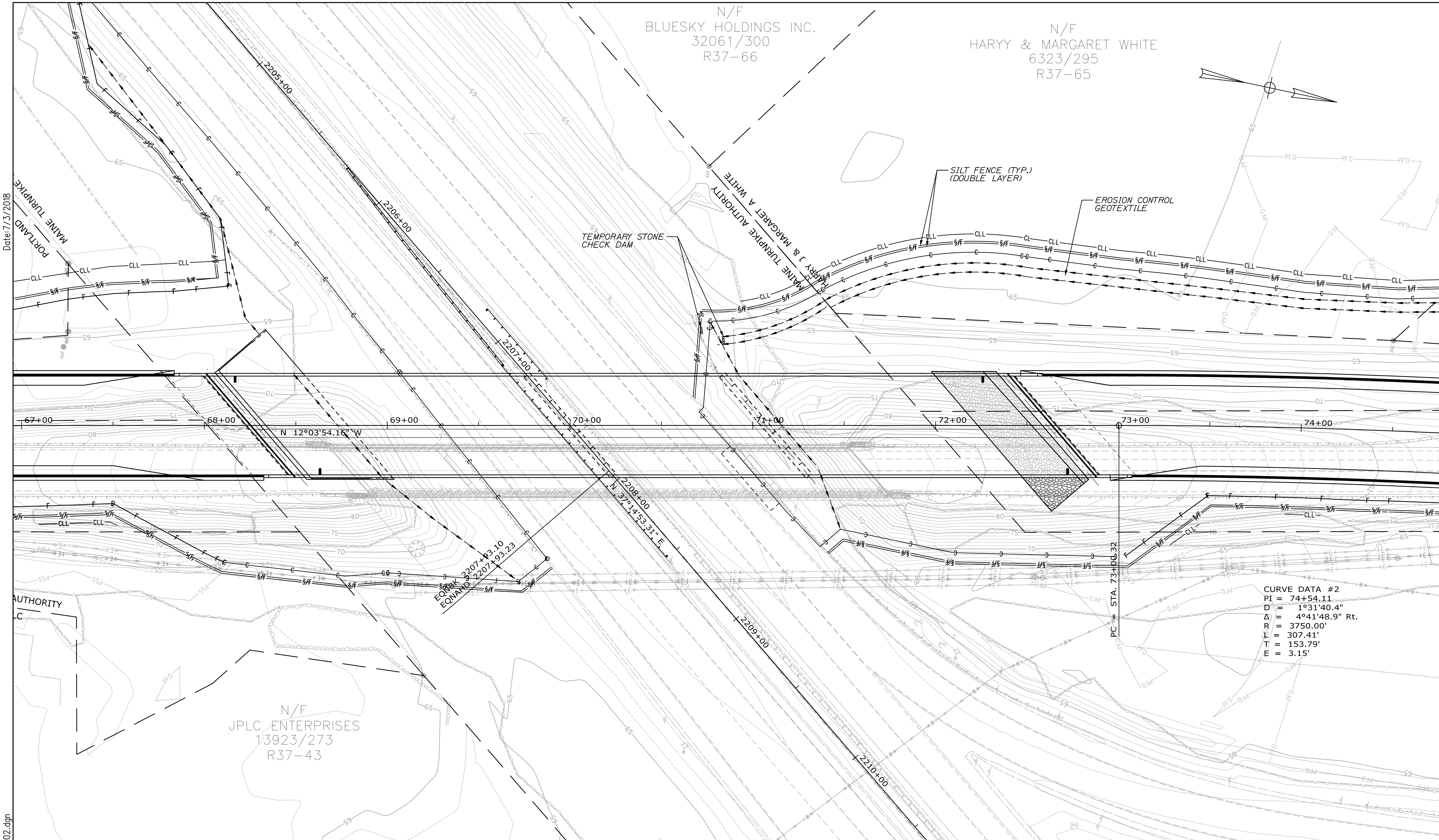
EROSION CONTROL PLAN 1

SHEET NUMBER: ER-01

CONTRACT:2018.09

XX OF 101

Filename: 0XX_ErosionControl_01.dgn



Date:7/3/2018

Filename: 0XX_ErosionControl_02.dgn

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	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

EROSION CONTROL PLAN 2

SHEET NUMBER: ER-02

CONTRACT:2018.09

Date:7/3/2018

WILLOWDALE ROAD LLC

N/F
WILLOWDALE ROAD LLC
31707/2
R37-60

STATE OF MAINE
17605/168
R37-61

EROSION CONTROL GEOTEXTILE

SILT FENCE (TYP.)
(DOUBLE LAYER)

CURVE DATA #3
PI = 77+55.98
D = 1°31'40.4"
Δ = 4°31'40.4" Lt.
R = 3750.00'
L = 296.35'
T = 148.25'
E = 2.93'

PT = STA. 79+04.08

POE = STA. 80+58.10

75+00 76+00 77+00 78+00 79+00 80+00 80+58

N 11°53'45.71" W

PRC = STA. 76+07.73

CURVE DATA #2
PI = 74+54.11
D = 1°31'40.4"
Δ = 4°41'48.9" Rt.
R = 3750.00'
L = 307.41'
T = 153.79'
E = 3.15'

N/F
DAYTON HUDSON CORP.
15300/210
R37/62

TARGET CORPORATION T-1338A
MAINE TURNPIKE AUTHORITY

TOWN OF SCARBOROUGH
TOWN OF SOUTH PORTLAND

Filename: 0XX_ErosionControl_03.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	07/18	Checked	LZD	07/18
Drawn	LSK	07/18	In Charge of	RAL	07/18

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

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

EROSION CONTROL PLAN 3

SHEET NUMBER: ER-03

CONTRACT:2018.09

XX OF 101

ATTACHMENT 4 **Photographs**

Cummings Road Bridge Underpass Project
Scarborough, Maine

I-95 Northbound Lanes Looking Northeast

I-95 Southbound Lanes Looking East

Cummings Road Looking North

Wetland W1 and Adjacent Developed Upland Areas Looking North

Cummings Road Bridge Underpass Project
Scarborough, Maine

Wetland W2 and Adjacent Developed Upland Areas Looking North

Wetland W4

Wetland W4

Upland Adjacent to Wetland W4

Cummings Road Bridge Underpass Project
Scarborough, Maine

Wetland W5

Wetland W5

Wetland W5

Wetland W5

Cummings Road Bridge Underpass Project
Scarborough, Maine

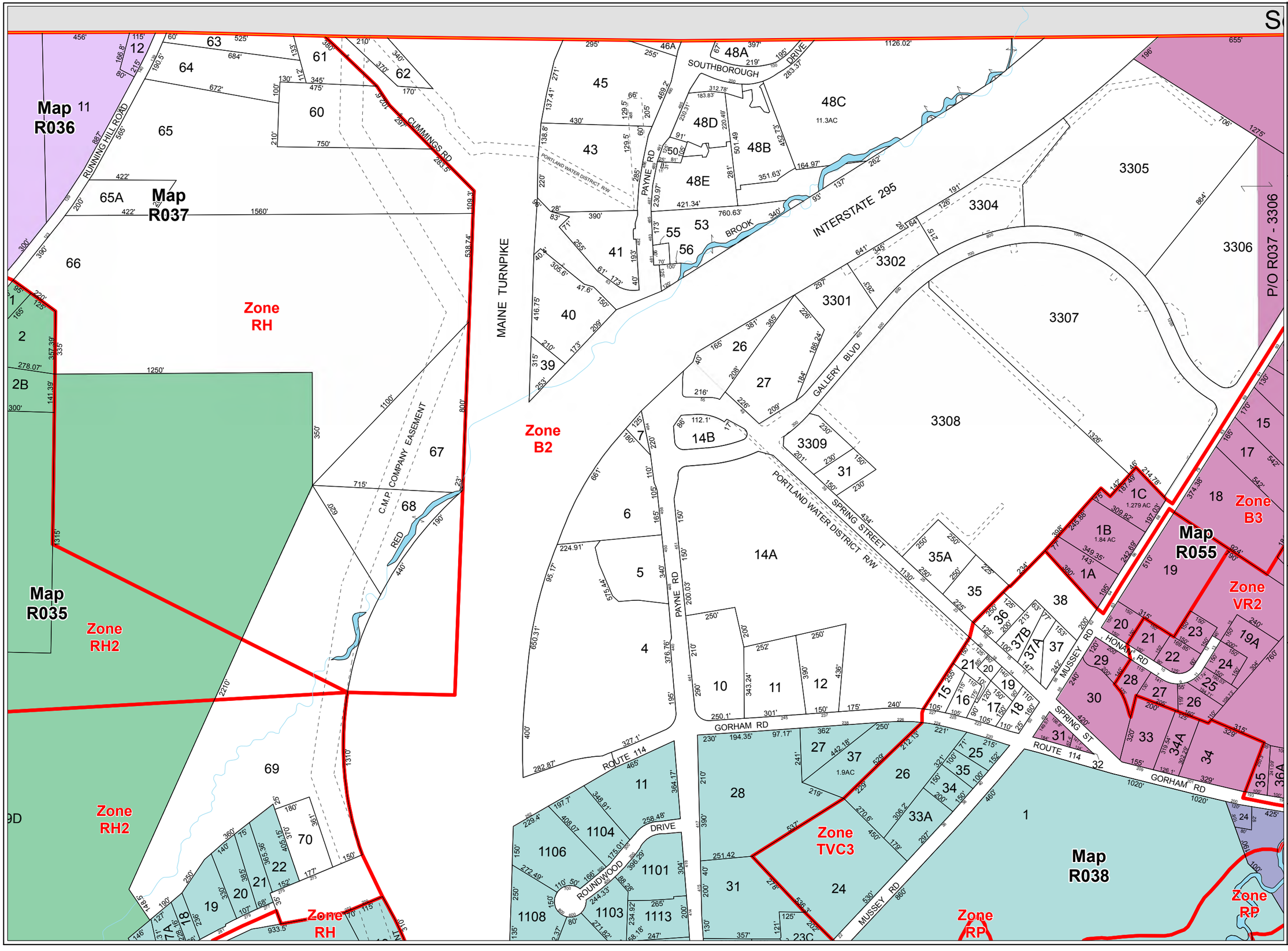
Upland Adjacent to Wetland W5

Ephemeral Stream S-1 (Upper Reach)

Ephemeral Stream S-1 (Lower reach near tie-in to Drainage D2)

Roadside Drainage D2

ATTACHMENT 5 **Town of South Portland Property Map**



Town of Scarborough Maine

For Assessing Purposes Only

Legend

- Railroad
- Easement & ROW Lines
- Parcels
- Water
- Townlines
- Surrounding Towns
- Zoning

April 1, 2016

N

1 inch = 200 feet

Map Number R037

ATTACHMENT 6 **Agency Coordination**

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: May 17, 2018
Consultation Code: 05E1ME00-2018-SLI-0708
Event Code: 05E1ME00-2018-E-01482
Project Name: Cummings Road Bridge Replacement Project

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 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-0708

Event Code: 05E1ME00-2018-E-01482

Project Name: Cummings Road Bridge Replacement Project

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: The project will involve replacement of the existing substandard 2-lane bridge over the Maine Turnpike with a 4-lane structure to improve traveler safety, accommodate pedestrian and bicycle access, and provide accommodations for potential future turnpike widening. Efforts will also include widening of the adjacent Cummings Road approach ways to accommodate the wider bridge configuration. Mature tree removals and freshwater palustrine forest and scrub-shrub wetland impacts are anticipated along Cummings Road. Construction is anticipated to begin in January 2019 and end in June 2021.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.62968426120685N70.34823522976194W

Counties: Cumberland, ME

Endangered Species Act Species

There is a total of 1 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

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

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

340 County Road, Suite 6C
Westbrook, ME 04092

Telephone (207) 774-5155
Facsimile (207) 228-0909
www.hntb.com

February 6, 2018

Mr. Kirk F. Mohney, Director
Maine Historic Preservation Commission
65 State House Station
Augusta, ME 04333-0065
Kirk.Mohney@maine.gov

RE: Project review for protected historic properties and cultural resources of significance - Cummings Road Bridge Replacement Project, Scarborough, Maine

Dear Mr. Mohney:

HNTB Corporation (HNTB), in cooperation with the Maine Turnpike Authority (MTA), is proposing a project to replace the existing Interstate 95 (I95) Cummings Road Bridge crossing in Scarborough, Maine. The project is in the preliminary design phase, and will involve replacing the two lane structure with a four lane structure offset to the west in order to maintain traffic during construction. Approximately 1,500' of approach roadway will be reconstructed and impacts will generally include tree removal, work in an ephemeral stream, and grading/fill in wetlands. Some property impacts outside of the existing MTA easements are also anticipated.

As part of project design and environmental permit planning activities we are writing to you to request information regarding protected historic properties and cultural resources of significance within the project area. The project area is generally located at Latitude: 43.629813° Longitude: -70.348263° as shown on the attached figure. Your written response would be greatly appreciated and may be sent directly to me electronically or via mail.

Please do not hesitate to contact me if you have any questions regarding this request.

Sincerely,
HNTB Corporation

Lori Driscoll, PE
Senior Highway Engineer
(207) 228-0884
ldriscoll@hntb.com
1 Attachment

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney,
State Historic Preservation Officer
Maine Historic Preservation Commission

2/12/18
Date

cc: Ralph C. Norwood (MTA), Sara Zografos (MTA), Stacie Grove (NewEarth Ecological)

PENOBSCOT NATION
CULTURAL & HISTORIC PRESERVATION
12 WABANAKI WAY, INDIAN ISLAND, ME 04468

CHRIS SOCKALEXIS – TRIBAL HISTORIC PRESERVATION OFFICER
E-MAIL: chris.sockalexis@penobscotnation.org

NAME	Lori Driscoll
ADDRESS	HNTB Corporation 340 County Road Westbrook, ME 04092
OWNER'S NAME	Maine Turnpike Authority
TELEPHONE	(207) 228-0884
FAX	
EMAIL	ldriscoll@hntb.com
PROJECT NAME	Cummings Road Bridge Replacement Project along I-95
PROJECT SITE	Scarborough, ME
DATE OF REQUEST	February 6, 2018
DATE REVIEWED	February 16, 2018

Thank you for the opportunity to comment on the above referenced project. This project appears to have no impact on a structure or site of historic, architectural or archaeological significance to the Penobscot Nation as defined by the National Historic Preservation Act of 1966, as amended.

If Native American cultural materials are encountered during the course of the project, please contact my office at (207) 817-7471. Thank you for consulting with the Penobscot Nation Tribal Historic Preservation Office with this project.

Chris Sockalexis, THPO
Penobscot Nation

Tribal Historic Preservation Office

Passamaquoddy Tribe
PO Box 159 Princeton, Me. 04668
207-796-5533

HNTB
340 County Road
Westbrook, Maine

February 13, 2018

Re: Scarbough – Cummings Road Bridge

Dear Lori;

The Passamaquoddy THPO has reviewed the following application regarding the historic properties and significant religious and cultural properties in accordance with NHPA, NEPA, AIRFA, NAGPRA, ARPA, Executive Order 13007 Indian Sacred Sites, Executive Order 13175 Consultation and Coordination with Indian Tribal Governments, and Executive Order 12898 Environmental Justice.

The above listed proposed project will not have any impact on cultural and historical concerns of the Passamaquoddy Tribe.

Sincerely;

Donald Soctomah
Soctomah@gmail.com
THPO
Passamaquoddy Tribe

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

340 County Road, Suite 6C
Westbrook, ME 04092

Telephone (207) 774-5155
Facsimile (207) 228-0909
www.hntb.com

February 6, 2018
SENT VIA EMAIL

Chief Edward Peter-Paul
Aroostook Band of Micmacs
7 Northern Road
Presque Isle, ME 04769
jpictou@micmac-nsn.gov

RE: Invitation for Government-to-Government Consultation on the Cummings Road Bridge Replacement Project, Scarborough, Maine

Dear Chief Peter-Paul:

HNTB Corporation (HNTB), in cooperation with the Maine Turnpike Authority (MTA), is proposing a project to replace the existing Interstate 95 (I95) Cummings Road Bridge crossing in Scarborough, Maine. The project is in the preliminary design phase, and will involve replacing the two lane structure with a four lane structure offset to the west in order to maintain traffic during construction. Approximately 1,500' of approach roadway will be reconstructed and impacts will generally include tree removal, work in an ephemeral stream, and grading/fill in wetlands. Some property impacts outside of the existing MTA easements are also anticipated. Attached is a figure showing the location of the project.

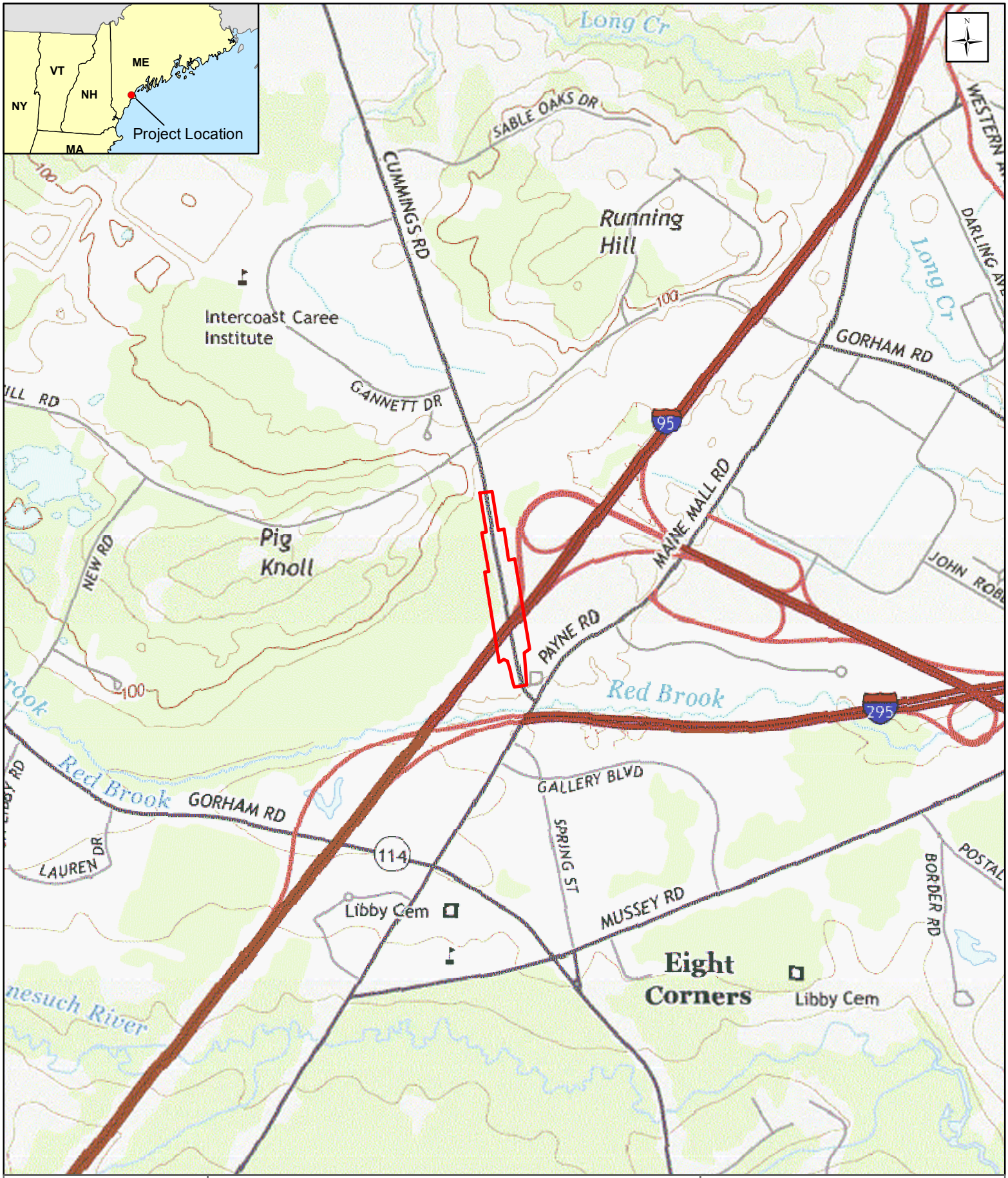
With this letter, and per the National Historic Preservation Act, Section 106, Federal Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments", HNTB is inviting you to consult on concerns that may significantly affect your Tribe related to the proposed bridge replacement. Early identification of Tribal concerns will allow HNTB and the MTA to consider ways to avoid, mitigate, or minimize potential impact to Tribal resources and practices as project alternatives are developed and refined.

We understand that you may have concerns regarding the confidentiality of the information on areas or resources of religious, traditional, and cultural importance to the Tribe. We would be happy to discuss these concerns and develop procedures to ensure the confidentiality of such information is maintained.

Your timely response will assist us in incorporating your concerns into project planning. For that reason, we respectfully request that you contact the HNTB within thirty days of your receipt of this correspondence as to your interest in Government-to-Government Consultation regarding this project. You may contact HNTB Project Manager Lori Driscoll if you would like additional information about this project.

Sincerely,
HNTB Corporation

Lori Driscoll, PE
Senior Highway Engineer
(207) 228-0884
ldriscoll@hntb.com
1 Attachment
cc: Ralph C. Norwood (MTA), Sara Zografos (MTA), Stacie Grove (NewEarth Ecological)



Prepared For: HNTB

Prepared By: NewEarth

Legend

Estimated Project Boundary

0 500 1,000 2,000 3,000 Feet

Figure 1. Site Location

Cummings Road Bridge Replacement Project
Scarborough and South Portland, Maine

Source: USGS 2014

Date: 7/17/2017

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

340 County Road, Suite 6C
Westbrook, ME 04092

Telephone (207) 774-5155
Facsimile (207) 228-0909
www.hntb.com

February 6, 2018
SENT VIA EMAIL

Houlton Band of Maliseet Indians
88 Bell Road
Littleton, ME 04730
envplanner@maliseets.com
ogs1@maliseets.com

RE: Invitation for Government-to-Government Consultation on the Cummings Road Bridge Replacement Project, Scarborough, Maine

To Whom it May Concern:

HNTB Corporation (HNTB), in cooperation with the Maine Turnpike Authority (MTA), is proposing a project to replace the existing Interstate 95 (I95) Cummings Road Bridge crossing in Scarborough, Maine. The project is in the preliminary design phase, and will involve replacing the two lane structure with a four lane structure offset to the west in order to maintain traffic during construction. Approximately 1,500' of approach roadway will be reconstructed and impacts will generally include tree removal, work in an ephemeral stream, and grading/fill in wetlands. Some property impacts outside of the existing MTA easements are also anticipated. Attached is a figure showing the location of the project.

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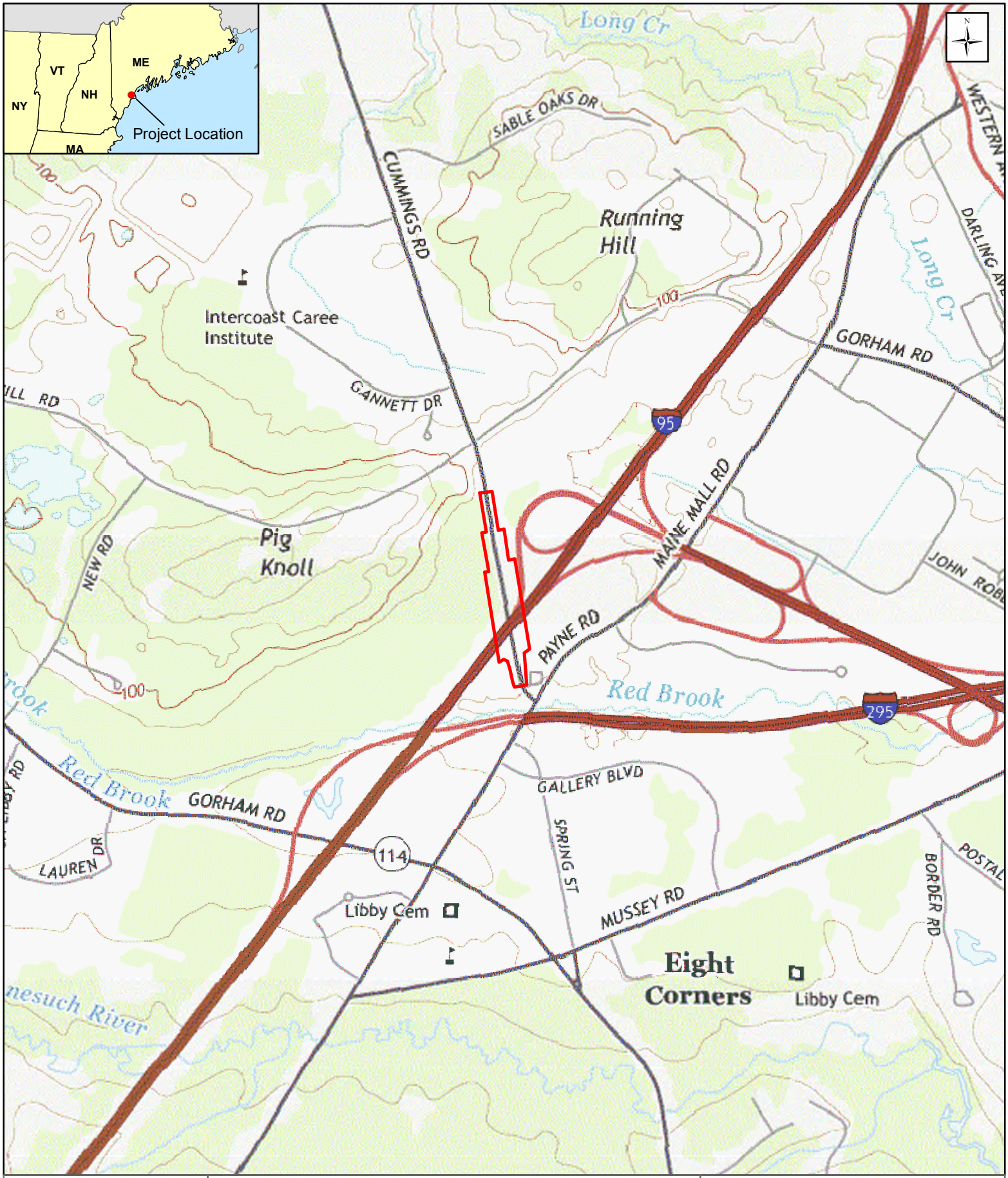
Sincerely,
HNTB Corporation

Lori Driscoll, PE
Senior Highway Engineer
(207) 228-0884
ldriscoll@hntb.com
1 Attachment
cc: Ralph C. Norwood (MTA), Sara Zografos (MTA), Stacie Grove (NewEarth Ecological)



Prepared For: HNTB

Prepared By: NewEarth

Legend

Estimated Project Boundary

0 500 1,000 2,000 3,000 Feet

Figure 1. Site Location

Cummings Road Bridge Replacement Project
Scarborough and South Portland, Maine

Source: USGS 2014

Date: 7/17/2017

MEETING NOTES

HNTB

Date October 27, 2017

HNTB Project Portland Area Mainline 63272-DS-908

Meeting Review Potential Wetlands and Streams

Location: MTA Office and Site Visit

Purpose: Review Potential Wetlands and Streams with Permitting Agencies

Attending: Jay Clement – USACE, Audie Arbo – MaineDEP, Bob Green – MaineDEP
Sara Zografos – MTA, Ralph Norwood – MTA, Erik Lema – Normandeau,
Dale Mitchell - HNTB

- Sara introduced the project and the purpose for the meeting
    - MTA is currently studying the carrying capacity of the Turnpike mainline between Exit 44 and 53 including development of traffic projections for the next 20 years; a Needs Assessment study.
    - MTA's ongoing infrastructure management program is updating projections for when existing overpass and underpass bridges will require repair, rehabilitation, and/or replacement. Currently, the Cummings Road bridge is in the design phase for replacement due to it's age. Similarly, the Exit 45 Interchange bridge has recently been repaired and is scheduled for replacement in the 10-year timeframe.
    - Given the timeline of these infrastructure rehabilitations and replacements, along with the steady growth of traffic on this section of the Turnpike, MTA has started the data collection necessary to support a wide range of potential outcomes of the Turnpike Needs Assessment study. Today's meeting is part of this data collection.
- Dale described the recent wetland, stream, and vernal pool data collection.
    - Two firms were brought on to collect this data, NewEarth collected data from Mile 44 to the Exit 48 Interchange, and Normandeau collected data from the Exit 48 Interchange to Mile 53.
    - There were 17 low-lying water filled areas identified south of Exit 48. Of them, only two met Maine's definitions for designation as Vernal Pool habitat. Of these, only one had evidence of use by target indicator species.
    - There were no areas identified as potential Vernal Pool habitat north of Exit 48.
    - These areas will be visited for a second season of data gathering.
    - Wetlands were delineated based on the 1987 USACE Wetland Delineation Manual and Regioinal supplement to the Corps Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)
    - 56 wetland complexes were identified south of Exit 48. 36 of these were connected to and/or maintained as stormwater conveyance (roadside ditches).
    - 77 wetland complexes were identified north of Exit 48. 29 of these were connected to and/or maintained as stormwater conveyance (roadside ditches).
- Sara and Dale then described the goal of working with the USACE and MaineDEP to clarify and better understand the Agencies expectations of permitting theoretical wetlands that are essentially human-made roadside ditches – stormwater conveyance features.
    - Dale provide the group with 11x17 graphics, color coded based on the MTA team's understanding of each feature, i.e. wetland, isolated wetland, roadside ditch, and stream,

as well as a picture log for each of these features. The group then walked through a number of representative examples, looked at pictures, and discussed the 'intent' of the feature definitions and feature use.

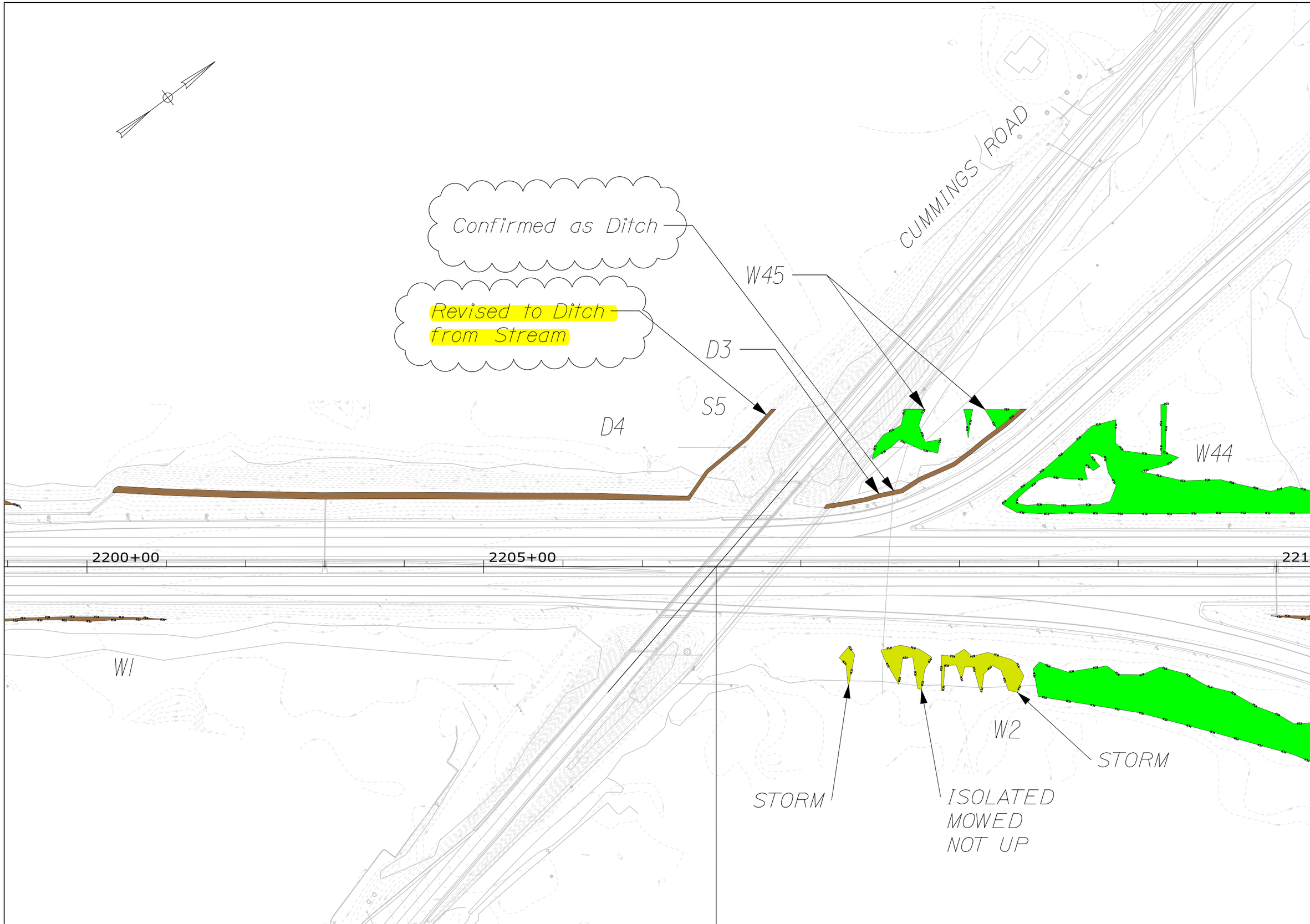
- Jay offered the following feature description for a good starting point:
  - If it started it's life as a wetland, was altered, and still meets definition of a wetland, it's likely still a wetland.
  - If it started it's life as a ditch, is maintained but now meets the definition of a wetland, it's likely still a ditch.
- Jay, Audie, and Bob offered that they appreciated the thorough field review and classifications and understood the MTA Team's desire to question the real classification of some features, especially the roadside ditches.
- A number of features were determined to be roadside ditches and not wetlands, mostly those that were more upland in nature and were not attached to larger wetland complexes. There were also a number of areas that were determined roadside ditches for that portion that simply conveyed stormwater and then determined a wetland when emptying into a larger wetland complex.

- Following the office review of pictures and plan delineations, the group visited a number of more questionable areas as well as a few very clear examples of roadside ditches that were truly roadside ditches and roadside ditches that were truly extensions of wetlands. The group also reviewed a number of features meeting definitions of a stream and in some cases agreed that the real classification should be a ditch, i.e. it was upland in nature and was simply an area where concentrated flow from the roadside ditch had carved a channel down a slope and to a cross-culvert.
- Following the site visit Audie asked if the MTA could assemble the colored graphics and notes of the meeting and forward them for the Agencies' review.

Submitted by,

HNTB CORPORATION
Dale A. Mitchell, P.E.
Senior Project Manager

cc: Meeting Attendees


CUMMINGS ROAD
Confirmed as Ditch
Revised to Ditch from Stream
W45
D3
S5
D4
W44
2200+00
2205+00
W1
W2
STORM
STORM
ISOLATED MOWED NOT UP

APPENDIX C
MS4 PROCEDURES AND PLANS

Maine Turnpike Authority
MS4 Stormwater Awareness Plan

Developing and implementing a Best Management Plan (BMP) Adoption Plan is a requirement of the Maine Department of Environmental Protection's (DEP's) *General Permit for the Discharge of Stormwater from Maine Department of Transportation (MaineDOT) and Maine Turnpike Authority (MTA) Municipal Separate Storm Sewer Systems* (MS4s). Since MTA is subject to this MS4 permit and its six *Minimum Control Measures* (MCMs), *Part IV(H)(1)(a)(ii)* requires MTA to conduct Public Education and Outreach (MCM #1) efforts that **encourage *"employees and contractors to utilize BMPs that minimize stormwater pollution."***

1.0 PERMIT LANGUAGE

Part IV(H)(1) of the MS4 Permit establishes three goals for *MCM #1 - Public Education and Outreach on Stormwater Impacts*. These include the following:

1. *To raise awareness that polluted stormwater runoff is one of the most significant sources of water quality problems for Maine's waters;*
2. *To motivate staff and contractors to use Best Management Practices (BMPs) which reduce polluted stormwater runoff; and*
3. *To reduce polluted stormwater runoff as a result of increased awareness and utilization of BMPs.*

In addition to continuing outreach efforts from the previous MS4 Permit (e.g., 5-year cycle)[1], MTA must satisfy these three goals by encouraging employees and contractors to use BMPs that minimize stormwater pollution as part of this Targeted BMP Adoption Plan. The progress and effectiveness of the Plan and associated efforts must then be evaluated and included in each annual report submitted to Maine DEP in accordance with *Part IV(J)* of the MS4 Permit. As part of this evaluation, MTA must include an assessment of process indicators and impact indicators to evaluate efforts in meeting these goals. In the fifth annual report, the BMP Adoption Plan shall be reviewed fully and include analysis of the process and impact indicators.

2.0 COVERAGE AREA

This plan has been developed for implementation by MTA to meet MS4 Permit requirements for Urbanized Areas (UAs) within MTA's right-of-way (ROW).

Process indicators are related to the execution of the program, such as (1) percent or number of employees who attend a training session; or (2) completion of a particular action item (e.g., distributing posters to employee work place and/or contractor job site).

Impact indicators are related to the achievement of the goals and objectives of the program, such as (1) observable/measurable effects on behavior; or (2) percent or number of employees to describe sources of storm water pollution, proper spill response, or maintenance of a BMP.

[1] Public education and outreach efforts continued from the previous MS4 permit cycle include (but are not limited to) conducting annual stormwater pollution prevention/spill prevention control and countermeasures (SPCC) training to MTA maintenance and engineering employees, as well as other Measurable Goals that can be found in MTA's Stormwater Program Management Plan (SPMP) dated December 2013.

3.0 OBJECTIVE

The objective of this Stormwater Awareness Plan is to raise awareness among MTA employees and contractors regarding stormwater issues. For example, stormwater runoff is one of the most significant sources of water quality problems for Maine's waters.

The goal of the Stormwater Awareness Plan is to provide information relative to stormwater impacts in an effort to raise awareness of MTA employees. For example, 100% of Highway Maintenance employees and Engineering Inspectors will attend training sessions at which stormwater issues and impacts will be addressed. Additionally, MTA will also work to raise awareness among MTA employees in other departments, such as Fare Collections by providing abbreviated Stormwater/Spill Prevention and Response training to supervisors and managers who will in turn inform additional employees regarding stormwater issues relative to MTA operations.

The goal of this Plan is to also raise awareness of contractors by providing this Plan, as well as the Targeted BMP Adoption Plan (which is designed to motivate employees and contractors to use BMPs to reduce polluted stormwater runoff), prior to starting work on MTA projects.

4.0 MESSAGE

The message MTA will strive to impart on employees and contractors will relate to the potential impacts their activities may have on stormwater runoff and water quality in Maine. The message statement is:

> *"The effect stormwater runoff has on the water quality of Maine waters is impacted by the level of effort put into the construction, operation, and maintenance of MTA's stormwater infrastructure. Polluted water entering the storm drain system and discharged untreated directly to waterbodies is used for drinking, fishing, and swimming, which impacts everyone in Maine."*

In addition to the Stormwater Awareness Plan message, the target audience will be informed of authorized non-stormwater discharges allowed by the permit provided they do not contribute to a violation of water quality standards, as determined by the DEP. These include the following:

- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20))
- Uncontaminated pumped ground water
- Uncontaminated flows from foundation drains
- Air conditioning and compressor condensate
- Irrigation water
- Flows from uncontaminated springs
- Uncontaminated water from crawl space pumps
- Uncontaminated flows from footing drains
- Lawn watering runoff
- Flows from riparian habitats and wetlands
- Residual street wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material has been removed and detergents are not used)
- Hydrant flushing and fire fighting activity runoff
- Water line flushing and discharges from potable water sources

4.1 OUTREACH TOOL(S) AND DISTRIBUTION

This Stormwater Awareness Plan and message will be provided to each MTA employee at annual training sessions and also to each contractor before commencement of work, in addition to the Targeted BMP Adoption Plan.

MTA has established or will rely on a number of outreach tools including the following:

- Existing stormwater training programs
  - For MTA employees, the internal training program will be evaluated annually (and updated, as needed) to include storm water topics in order to assess process and impact indicators; and
  - For contractors, MTA continues to require an On-Site Responsible Party (OSRP) certified by DEP's NPS Training Program to be knowledgeable of stormwater, specifically erosion prevention, sedimentation control and other potential impacts to water quality in Maine.
- Stormwater information packages to raise awareness and encourage utilization of targeted BMPs
  - For MTA employees, information will be provided during annual and supplemental training sessions. Informational packages may also be provided via MTA's newsletters and memos posted to employee bulletin boards, as well as through employee meetings, including quarterly Environmental Health & Safety Committee meetings.
  - For contractors, MTA will continue to include contractual requirements provided in the standard contract language that establishes the anticipated expectations for performance and payment. Stormwater information will be discussed or provided to contractors prior to starting work (e.g., at Pre-Construction meetings).

4.2 TIMELINE AND IMPLEMENTATION SCHEDULE

The timeline and implementation schedule is determined by:

- The training schedule established each year for MTA employees; and
- The solicitation and project award notices each year.

MTA has established a representative training schedule for each year and is similar to the table below:

Date	Training Type
April	Erosion and Sediment Control (ESC) and Stormwater Pollution Prevention for highway maintenance Supervisors and Foremen
May - June	Spill Prevention Control and Countermeasures Plan (SPCC), Stormwater and Erosion and Sediment Control (ESC) for MTA maintenance and engineering employees.
October	Spill Prevention Control and Countermeasures Plan (SPCC) and Stormwater for Fare Collections

The training sessions are designed to meet the goal of increasing awareness, as well as encouraging utilization of targeted BMPs to reduce stormwater runoff and potential impacts. In addition to these training sessions, there may be supplemental training sessions as needed and/or new information posters about stormwater BMPs posted at MTA facilities. Newsletters including stormwater information may also be sent each year to employees.

For contractors, MTA's requirement to have an OSRP certified by DEP's NPS Program ensures that the contractor is aware of stormwater related issues. In addition, MTA distributes this Stormwater Awareness Plan to contractors.

4.3 RESPONSIBLE PARTY

The primary responsible party at MTA is the Environmental Services Coordinator, John Branscom. The Environmental Services Coordinator may also rely on the following:

- MTA Supervisors, Foremen, Inspectors and/or other personnel to inform MTA employees and contractors of the targeted BMPs to be utilized;
- An environmental consulting firm, such as GZA GeoEnvironmental, Inc, to ensure MTA's employees are trained as defined by the Plan; and
- A design engineering firm, such as HNTB, who administer construction contracts, to ensure the Plan is properly implemented by the contractors.

4.4 EVALUATION PROTOCOL

MTA training is documented with attendance sign-in sheets, exam scores, in-class workshops and evaluation forms. A training database is maintained with information gathered from employees during each training session.

Process Indicators: Assessment of the program execution will be included in the annual report. The following topics will be reported for MTA employees:

1. Number of employees that attended training; and
2. Average exam scores for attendees.

Impact Indicators: Gauging the achievement of goals and objectives of the program will be included in the annual report. These will be addressed by the following behavioral change questions:

1. Number or percentage of employees to identify the goals of MCM #1 correctly;
2. Number or percentage of employees to identify source(s) of storm water pollution;
3. Number or percentage of employees to identify and differentiate between structural and non-structural BMPs; and
4. Number or percentage of employees to demonstrate an applied knowledge of BMP-specific information.

Process and impact indicators for contractors will be tracked by documenting the pre-construction meetings when this Plan and the Targeted BMP Adoption Plan are provided to each contractor and the contractor, in turn, provides MTA with the certification for their OSRP for the project.

4.5 PLAN MODIFICATION

This Stormwater Awareness Plan may require modification if evaluation data shows that efforts are not effective. Should modifications be needed, the plan will be revised or a new plan will be developed.

I have read and accept the policies outlined in this Stormwater Awareness Plan as required by MTA's MS4 Permit.

Contractor Signature of Acknowledgement	Date
Printed Name	Project Number

Maine Turnpike Authority
MS4 Targeted BMP Adoption Plan

Developing and implementing a Best Management Plan (BMP) Adoption Plan is a requirement of the Maine Department of Environmental Protection's (DEP's) *General Permit for the Discharge of Stormwater from Maine Department of Transportation (MaineDOT) and Maine Turnpike Authority (MTA) Municipal Separate Storm Sewer Systems* (MS4s). Since MTA is subject to this MS4 permit and its six *Minimum Control Measures* (MCMs), *Part IV(H)(1)(a)(ii)* requires MTA to conduct Public Education and Outreach (MCM #1) efforts that **encourage *"employees and contractors to utilize BMPs that minimize stormwater pollution."***

1.0 PERMIT LANGUAGE

Part IV(H)(1) of the MS4 Permit establishes three goals for *MCM #1 - Public Education and Outreach on Stormwater Impacts*. These include the following:

1. *To raise awareness that polluted stormwater runoff is one of the most significant sources of water quality problems for Maine's waters;*
2. *To motivate staff and contractors to use Best Management Practices (BMPs) which reduce polluted stormwater runoff; and*
3. *To reduce polluted stormwater runoff as a result of increased awareness and utilization of BMPs.*

In addition to continuing outreach efforts from the previous MS4 Permit (e.g., 5-year cycle)[1], MTA must satisfy these three goals by encouraging employees and contractors to use BMPs that minimize stormwater pollution as part of this Targeted BMP Adoption Plan. The progress and effectiveness of the Plan and associated efforts must then be evaluated and included in each annual report submitted to Maine DEP in accordance with *Part IV(J)* of the MS4 Permit. As part of this evaluation, MTA must include an assessment of process indicators and impact indicators to evaluate efforts in meeting these goals. In the fifth annual report, the BMP Adoption Plan shall be reviewed fully and include analysis of the process and impact indicators.

2.0 COVERAGE AREA

This plan has been developed for implementation by MTA to meet MS4 Permit requirements for Urbanized Areas (UAs) within MTA's right-of-way (ROW).

Process indicators are related to the execution of the program, such as (1) percent or number of employees who attend a training session; or (2) completion of a particular action item (e.g., distributing posters to employee work place and/or contractor job site).

Impact indicators are related to the achievement of the goals and objectives of the program, such as (1) observable/measurable effects on behavior; or (2) percent or number of employees to describe sources of storm water pollution, proper spill response, or maintenance of a BMP.

[1] Public education and outreach efforts continued from the previous MS4 permit cycle include (but are not limited to) conducting annual stormwater pollution prevention/spill prevention control and countermeasures (SPCC) training to MTA maintenance and engineering employees, as well as other Measurable Goals that can be found in MTA's Stormwater Program Management Plan (SPMP) dated December 2013.

3.0 OBJECTIVE

The objective of this Targeted BMP Adoption Plan is to educate MTA's employees and contractors to use BMPs which reduce polluted stormwater runoff within UA.

The goal of the BMP Adoption Plan is to target BMPs in the MaineDOT BMP Manual to be utilized by employees and contractors that minimize stormwater pollution during construction activities, such as:

(1) Installing silt fence prior to land disturbance; and

(2) Ensuring that hay mulch is applied to soil at the end of each work day.

For MTA employees, focus will also be given to targeting BMPs relevant to transportation-related maintenance and good housekeeping activities, such as:

(1) Regular sweeping of the mainline and peripheral facilities;

(2) Annual catch basin clean-outs and sediment removal;

(3) As needed ditch cleaning and repair;

(4) On-going culvert maintenance and litter removal.

Contractors are also encouraged to utilize BMPs in accordance with standard construction contract language (e.g., Special Provision 656), as well as the MaineDOT BMP Manual.

4.0 MESSAGE

The message MTA will strive to impart on employees and contractors will relate to the impacts their activities have on stormwater runoff and the importance of BMPs. The message statement is:

> *"Implementing appropriate BMPs, as described in MaineDOT's Stormwater BMPs Manual, to all MTA related activities will help to minimize stormwater pollutants introduced to Maine's waterbodies."*

4.1 OUTREACH TOOL(S) AND DISTRIBUTION

Targeted BMPs are included in the MaineDOT BMP Manual that is available at each MTA maintenance facility and referenced in standard contract language for contractors.

MTA has established or will rely on a number of outreach tools including the following:

- Existing stormwater training programs
    - For MTA employees, the internal training program will be evaluated annually (and updated, as needed) to include storm water topics in order to assess process and impact indicators; and
    - For contractors, MTA continues to require an On-Site Responsible Party (OSRP) certified by DEP's NPS Training Program to be knowledgeable in erosion prevention and sedimentation control.
- Existing standard contract language
    - Requires contractors to maintain a certified OSRP on-site who has authority to implement BMPs appropriately; and
    - Specifies that contractors must utilize MaineDOT's BMP Manual, as well as other BMPs, to ensure construction site runoff is minimized.
- Stormwater information packages to raise awareness and encourage utilization of targeted BMPs
    - For MTA employees, information will be provided during annual and supplemental training sessions. Informational packages may also be provided via MTA's newsletters

and memos posted to employee bulletin boards, as well as through employee meetings, including quarterly Environmental Health & Safety Committee meetings.

- For contractors, MTA will continue to include contractual requirements provided in the standard contract language that establishes the anticipated expectations for performance and payment. This Target BMP Adoption Plan will also be provided to contractors prior to starting work (e.g., at Pre-Construction meetings).

4.2 TIMELINE AND IMPLEMENTATION SCHEDULE

The timeline and implementation schedule is determined by:

- The training schedule established each year for MTA employees; and
- The solicitation and project award notices each year.

MTA has established a representative training schedule for each year and is similar to the table below.

Date	Training Type
April	Erosion and Sediment Control (ESC) and Stormwater Pollution Prevention for Highway Maintenance Supervisors and Foremen
May - June	Spill Prevention Control and Countermeasures Plan (SPCC), Stormwater and Erosion and Sediment Control (ESC) for MTA maintenance and engineering employees.

In addition to the training sessions above, there may be supplemental training sessions as needed and/or new information posters about stormwater BMPs posted at MTA facilities. Newsletters including stormwater information may also be sent each year to employees.

For contractors, targeted BMPs are already being implemented in accordance with contract language and the MaineDOT BMP Manual. In addition, MTA distributes this Targeted BMP Adoption Plan to contractors.

4.3 RESPONSIBLE PARTY

The primary responsible party at MTA is the Environmental Services Coordinator, John Branscom. The Environmental Services Coordinator may also rely on the following:

- MTA Supervisors, Foremen, Inspectors and/or other personnel to inform MTA employees and contractors of the targeted BMPs to be utilized;
- An environmental consulting firm, such as GZA GeoEnvironmental, Inc, to ensure MTA's employees are trained as defined by the Plan; and
- A design engineering firm, such as HNTB, who administer construction contracts, to ensure the Plan is properly implemented by the contractors.

5.0 EVALUATION PROTOCOL

MTA training is documented with attendance sign-in sheets, exam scores, in-class workshops and evaluation forms. A training database is maintained with information gathered from employees during each training session.

Process Indicators: Assessment of the program execution will be included in the annual report. The following topics will be reported for MTA employees:

1. Number of employees that attended training; and
2. Average exam scores for attendees.

Impact Indicators: Gauging the achievement of goals and objectives of the program will be included in the annual report. These will be addressed by the following behavioral change questions:

1. Number or percentage of employees to identify the goals of MCM #1 correctly;

2. Number or percentage of employees to identify source(s) of storm water pollution;
3. Number or percentage of employees to identify and differentiate between structural and non-structural BMPs; and
4. Number or percentage of employees to demonstrate an applied knowledge of BMP-specific information.

Process and impact indicators for contractors will be tracked and evaluated based on daily and/or weekly inspections conducted on-site.

6.0 PLAN MODIFICATION

This Targeted BMP Adoption Plan may require modification if evaluation data shows that efforts are not effective. Should modifications be needed, the plan will be revised or a new plan will be developed.

I have read and accept the policies outlined in this Stormwater Awareness Plan as required by MTA's MS4 Permit.

_____	_____
Contractor Signature of Acknowledgement	Date
_____	_____
Printed Name	Project Number