MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

CONTRACT DOCUMENTS

CONTRACT 2015.03

BRIDGE REPAIRS
EXIT 45 BRIDGE (MM 44.9)
EXIT 46 BRIDGE (MM 46.3)

PAVEMENT REHABILITATION
EXIT 46 (MM 46.3)

MISCELLANEOUS TURNPIKE REPAIRS
MM 44.0 TO MM 49.01AND F.S. MM 0.60

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

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

The Maine Turnpike General Provisions are additions and alterations to the Maine Department of Transportation Standard Specifications - Revision of December 2002.
See Subsection 100.1.

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NOTICE TO CONTACTORS

PROPOSAL

CONTRACT AGREEMENT

CONTRACT BOND

FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT

SPECIFICATIONS

MAINE TURNPIKE AUTHORITY

NOTICE TO CONTRACTORS

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

CONTRACT 2015.03

BRIDGE REPAIRS
EXIT 45 BRIDGE (MM 44.9)
EXIT 46 BRIDGE (MM 46.3)

PAVEMENT REHABILITATION
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MISCELLANEOUS TURNPIKE REPAIRS
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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 February 17, 2015 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 Highway and/or Bridge Construction Projects. The submitting bidder shall specifically name on the bid forms and use only MaineDOT prequalified contractors for all highway, bridge, and paving work that the submitting bidder is not prequalified for. 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 bridge repairs at Exit 45 & 46, pavement rehabilitation at Exit 46, snow fence installation, bridge mounted sign installation, and railroad bridge conduit installation. The work also involves pavement markings, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications.

The general limits of work are from Mile 44.0 to Mile 49.01.

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 full size Plans and Contract Documents may be obtained from the Authority upon payment of One Hundred and Fifteen ($115.00) Dollars for each set, which payment will not be returned. The half size plans and Contract documents may be obtained from the Authority upon payment of Eighty Five ($85.00) dollars for each set, which payment will not be returned. Checks shall be made payable to: Maine Turnpike Authority. The plans and Contract documents may also be downloaded from a link on our website at http://www.maineturnpike.com/project-and-planning/Construction-Contracts.aspx

For general information regarding Bidding and Contracting procedures, contact Nate Carll, Purchasing Manager, at (207) 871-7771 Ext. 105. For information regarding Schedule of Items, plan holders list and bid results, visit our website at:

http://www.maineturnpike.com/project-and-planning/Construction-Contracts.aspx

For Project specific information, fax all questions to Nate Carll, Purchasing Manager, at (207) 871-7739. 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 December 2002", "Standard Details, Revision of December 2002" and "Best Management Practices for Erosion and Sediment Control", latest issue. Copies and recent updates to these publications can be downloaded at: http://www.maine.gov/mdot/contractors/publications/

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

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

A pre-bid conference will be held on February 10, 2015 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 2015.03

BRIDGE REPAIRS
EXIT 45 BRIDGE (MM 44.9)
EXIT 46 BRIDGE (MM 46.3)

PAVEMENT REHABILITATION
EXIT 46 (MM 46.3)

MISCELLANEOUS TURNPIKE REPAIRS
MM 44.0 TO MM 49.01AND F.S. MM 0.60

MAINE TURNPIKE AUTHORITY

PROPOSAL

CONTRACT 2015.03

BRIDGE REPAIRS
EXIT 45 BRIDGE (MM 44.9)
EXIT 46 BRIDGE (MM 46.3)

PAVEMENT REHABILITATION
EXIT 46 (MM 46.3)

MISCELLANEOUS TURNPIKE REPAIRS
MM 44.0 TO MM 49.01AND F.S. MM 0.60

TO MAINE TURNPIKE AUTHORITY:

The work consists of bridge repairs at Exit 45 & 46, pavement rehabilitation at Exit 46, snow fence installation, bridge mounted sign installation, and railroad bridge conduit installation. The work also involves pavement markings, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications.

The general limits of work are from Mile 44.0 to Mile 49.01.

This Work will be done under a Contract known as Contract 2015.03 according to the Plans and Specifications which are on file in the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine.

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

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

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

SCHEDULE OF BID PRICES
CONTRACT NO. 2015.03
BRIDGE REPAIRS
PAVING REHABILITATION
MISCELLANEOUS REPAIRS

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
202.121	Removing Existing Concrete - Median Barrier	Lump Sum	1				
202.14	Removing Existing Railing - Property of Contractor	Linear Foot	640				
202.202	Removing Pavement Surface	Square Yard	16,000				
202.2021	Removing Pavement Surface - Bridge Deck	Square Yard	1,600				
202.2022	Removing Pavement Surface - Full Depth	Square Yard	4,250				
202.2026	Removing Pavement Surface - Drainage Paths	Square Foot	1,150				
203.2	Common Excavation	Cubic Yard	540				
203.241	Common Borrow, Truck Measure	Cubic Yard	1,300				
203.25	Granular Borrow	Cubic Yard	85				
206.082	Structural Earth Excavation - Major Structures	Cubic Yard	7				
304.09	Aggregate Base Course - Crushed	Cubic Yard	345				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
304.1	Aggregate Subbase Course - Gravel	Cubic Yard	860				
403.207	Hot Mix Asphalt, 19 mm Nominal Maximum Size	Ton	1,010				
403.2081	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size - Bridge Deck	Ton	340				
403.2083	Hot Mix Asphalt, 12.5 mm (Polymer Modified) - RAP	Ton	2,100				
403.211	Hot Mix Asphalt (Shimming)	Ton	160				
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size, Base	Ton	2,200				
409.15	Bituminous Tack Coat - Applied	Gallon	1,560				
409.151	Bituminous Tack Coat - Applied, Bridge	Gallon	225				
419.3	Sawing Bituminous Pavement	Linear Foot	830				
470.08	Berm Dropoff Correction - Grindings	Ton	110				
502.81	Installation of Plastic Deck Drains	Each	12				
503.171	Corroded Reinforcing Steel - Repair Detail 1	Each	10				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
507.095	Aluminum Bridge Railing - Splice Modification	Each	88				
507.11	Light-Weight Barrier - Fabricated and Delivered	Linear Foot	1,090				
507.12	Light-Weight Barrier - Placed (Temporary)	Linear Foot	1,690				
507.13	Light-Weight Barrier - Placed (Permanent)	Linear Foot	1,010				
508.13	Waterproofing Membrane	Lump Sum	1				
514.06	Curing Box for Concrete Cylinders	Each	2				
515.201	Pigmented Protective Coating for Concrete Surfaces	Square Yard	700				
515.202	Clear Protective Coating for Concrete Surfaces	Square Yard	1,950				
515.203	Re-caulking Existing Concrete Barrier Construction / Control Joints	Linear Foot	865				
518.1	Abutment Repairs	Square Foot	75				
518.4	Epoxy Injection Crack Repair - Parapets	Linear Foot	180				
518.6	Repair of Vertical Surfaces - Approach Slab Modification	Linear Foot	78				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
518.8	Partial Depth Concrete Repairs	Square Foot	1,100				
518.81	Full Depth Concrete Repairs	Square Foot	150				
518.86	Bridge Joint Header Concrete Repairs	Square Foot	83				
520.211	Install New Gland Seal - Exit 45	Linear Foot	100				
520.23	Asphaltic Plug Joint	Linear Foot	80				
520.24	Bridge Joint Modification - Exit 45 at Median	Linear Foot	6				
526.306	Temporary Concrete Barrier, Type I - Supplied by Authority	Lump Sum	1				
527.342	Work Zone Crash Cushions - TL-2	Unit	2				
603.205	30" RCP - Class III	Linear Foot	32				
604.187	Rebuild Catch Basin to Grade - Type B1	Each	4				
604.4	Secure Catch Basin Grate	Each	4				
606.1723	Thrie Beam Bridge Attachment at Railing - Type III	Each	4				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
606.1724	Thrie Beam Bridge Attachment at Median - Type III	Each	2				
606.178	Guardrail Beam	Linear Foot	225				
606.2652	Terminal End - Remove and Stack	Each	8				
606.278	Terminal End - Anchored End	Each	6				
606.352	Reflectorized Beam Guardrail Delineator	Each	55				
606.353	Delineator Post	Each	150				
606.354	Delineator Post - Remove and Reset	Each	15				
606.355	Delineator Post - Remove and Stack	Each	28				
606.3605	Guardrail - Remove, Modify, and Reset Single Rail	Linear Foot	848				
606.3606	Guardrail - Remove, Modify, and Reset Double Rail	Linear Foot	390				
606.3621	Guardrail Adjust - Single Rail	Linear Foot	2,200				
606.3631	Guardrail - Remove and Dispose	Linear Foot	353				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
606.471	Single Offset Block - W Beam	Each	18				
606.48	Single Galvanized Steel Post	Each	18				
606.701	Asymmetrical Thrie Beam Transition	Each	2				
606.81	Guardrail 350 FLEAT Terminal - Remove and Reset	Each	1				
606.93	Guardrail 350 FLEAT Terminal - Remove and Stack	Each	2				
607.4311	Snow Fence - Running Hill Road Bridge (3-Bar)	Linear Foot	192				
607.4312	Snow Fence - Warren Avenue Bridges (2-Bar)	Linear Foot	224				
607.4313	Snow Fence - Auburn Street Bridge (2-Bar)	Linear Foot	224				
610.08	Plain Riprap	Cubic Yard	16				
613.319	Erosion Control Blanket	Square Yard	150				
615.07	Loam	Cubic Yard	245				
618.14	Seeding Method Number 2	Unit	20				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
619.1201	Mulch, Plan Quantity	Unit	20				
619.1202	Temporary Mulch	Lump Sum	1				
620.58	Non-woven Geotextile	Square Yard	65				
626.11	Precast Concrete Junction Box	Each	5				
626.12	Quazite Junction Box	Each	4				
626.13	Remove and Relocate Quazite Junction Box	Each	4				
626.14	Remove and Relocate Precast Concrete Junction Box	Each	12				
626.112	Aluminum Junction Box	Each	4				
626.212	Metallic Conduit - 2 Inch Rigid Galvanized	Linear Foot	840				
626.22	Non-Metallic Conduit	Linear Foot	3,000				
626.32	24" Foundation	Each	12				
627.181	12 Inch Solid White Pavement Marking Line	Linear Foot	520				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
627.4074	Preformed Pavement Marking Tape Symbols, Hot Inlay Installation	Square Foot	430				
627.712	4 Inch White or Yellow Painted Pavement Marking Line	Linear Foot	2,100				
627.7121	6 Inch White or Yellow Painted Pavement Marking Line	Linear Foot	17,050				
627.72	Temporary 4 Inch Pavement Marking Tape, White or Yellow	Linear Foot	2,000				
627.73	Temporary 6 Inch Pavement Marking Tape, White or Yellow	Linear Foot	6,700				
627.731	Temporary 6 Inch Black Pavement Marking Tape	Linear Foot	2,600				
627.68	Temporary 4 Inch Painted Pavement Marking Line, White or Yellow	Linear Foot	5,100				
627.681	Temporary 6 Inch Painted Pavement Marking Line, White or Yellow	Linear Foot	15,100				
627.77	Removing Existing Pavement Markings	Square Foot	1,560				
627.812	Temporary Raised Pavement Markers	Each	510				
627.94	Pavement Marking Line - Recessed Tape, Broken White Line, 6-inch	Linear Foot	410				
627.943	Pavement Marking Line - Recessed Tape, Solid W or Y Line, 6-inch	Linear Foot	1,000				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
627.944	Pavement Markings - Recessed Tape - Words, Arrows, Stop Bars	Square Foot	140				
629.05	Hand Labor, Straight Time	Hour	60				
631.1	Air Compressor (including operator)	Hour	30				
631.11	Air Tool (including operator)	Hour	30				
631.12	All Purpose Excavator (including operator)	Hour	30				
631.172	Truck - large (including operator)	Hour	40				
631.36	Foreman	Hour	50				
631.4	Welding Machine (including operators)	Hour	20				
634.175	Replacement LED Fixture	Each	39				
634.208	Remove and Reset Light Standard	Each	8				
634.2154	#4 AWG THHN Wire	Linear Foot	4,800				
634.2156	#6 AWG THHN Wire	Linear Foot	2,400				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
643.713	Preemptive Traffic Loops	Each	2				
645.109	Remove and Reset Sign	Each	3				
645.12	Bridge Sign (Skyway Drive Bridge)	Lump Sum	1				
645.13	Bridge Overpass-Mounted Guide Sign Support (Congress Street Bridge)	Lump Sum	1				
645.162	Breakaway Device Multi Pole	Each	4				
645.289	Steel H-Beam Poles	Pound	1,350				
645.401	Intallation of Type II Sign	Each	4				
645.41	Installation of Type I Guide Sign	Each	2				
652.3	Flashing Arrow Board	Each	3				
652.312	Type III Barricades	Each	18				
652.33	Drum	Each	230				
652.35	Construction Signs	Square Foot	4,280				
				CARRIED FORWARD:			

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
652.361	Maintenance of Traffic Control Devices	Lump Sum	1				
652.38	Flaggers	Hour	360				
652.39	Portable - Light Tower	Each	3				
652.41	Portable - Changeable Message Sign	Each	6				
652.45	Truck Mounted Attenuator	Day	60				
656.5	Baled Hay, in place	Each	40				
656.6	Temporary Berms	Linear Foot	350				
656.62	Temporary Slope Drains	Linear Foot	40				
656.632	30 inch Temporary Silt Fence	Linear Foot	2,550				
659.1	Mobilization	Lump Sum	1				
					TOTAL:		

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

Acknowledgement is hereby made that the following firm(s) are sub-contracting to the undersigned to complete the work discipline noted, and are pre-qualified by MaineDOT to complete said work: _____
_____
_____

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

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

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

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

_____ *(SEAL)*

_____ *(SEAL)*

Affix Corporate Seal
or Power of Attorney
Where Applicable

_____ *(SEAL)*

By: _____

Its: _____

Information below to be typed or printed where applicable:

INDIVIDUAL:

_____	_____
(Name)	(Address)

PARTNERSHIP - Name and Address of General Partners:

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

INCORPORATED COMPANY:

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

MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

YORK TO AUGUSTA

CONTRACT AGREEMENT

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

_____

herein termed the "Contractor":

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

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

_____

_____

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

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

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

AUTHORITY -

MAINE TURNPIKE AUTHORITY

By: _____

Title: CHAIRMAN

Date of Signature: _____

ATTEST:

_____
Secretary

CONTRACTOR -

_____
CONTRACTOR

By: _____

Title: _____

Date of Signature: _____

WITNESS:

_____

CONTRACT BOND

KNOW ALL MEN BY THESE PRESENTS that _____

of _____ in the County of _____ and State of _____

as Principal, and _____ a Corporation duly organized under

the laws of the State of _____ and having a usual place of business in _____

_____

As Surety, are held and firmly bound unto the Maine Turnpike Authority in the sum of _____Dollars ($_____.___), to be paid to said Maine Turnpike Authority, or its successors, for which payment, well and truly to be made, we bind ourselves, our heirs, executors, successors and assigns jointly and severally by these presents.

The condition of this obligation is such that the Principal, designated as Contractor in the foregoing Contract No. _____ shall faithfully perform the Contract on his part and satisfy all claims and demands incurred for the same and shall pay all bills for labor, material, equipment and all other items contracted for, or used by him, in connection with the Work contemplated by said Contract, and shall fully reimburse the Obligee for all outlay and expense which the Obligee may incur in making good any default of said Principal, then this Obligation shall be null and void; otherwise it shall remain in full force and effect.

Signed and sealed this _____ day of _____, A.D., 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 his own knowledge and that the foregoing is his free act and deed in said capacity and the free act and deed of the above-named _____.
(Company Name)

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

(SEAL)

_____
Notary Public

My Commission Expires: _____

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART I – GENERAL PROVISIONS

(Rev. May 18, 2009)

DIVISION 100 - GENERAL PROVISIONS

100.1 Replacement of Former Standard Specifications and Details

The following paragraphs are added:

The Maine Department of Transportation Standard Specifications Revisions of 2002 as modified herein is referenced and incorporated in all Maine Turnpike Authority Construction Contracts. These Maine Turnpike General Provisions replace all previous Maine Turnpike General Provisions and are additions and alterations to the Maine Department of Transportation Standard Specifications. Maine Department of Transportation Consolidated Special Provisions or corrections, additions, and revisions to their Standard Specifications are not referenced or incorporated unless specifically included in the Contract. Applicable MaineDOT December 28, 2004 Consolidated Special Provisions, corrections, additions, and revisions have been incorporated into this document.

All references to components or employees of the Maine Department of Transportation listed in Column A shall also refer to components or employees of the Maine Turnpike Authority in Column B unless otherwise stated.

A	B
Maine Department of Transportation	Maine Turnpike Authority
Department	Authority
Commissioner	Executive Director
Contracts Engineer	Purchasing Manager
Contracts Section	Purchasing Department
Chief Engineer	Director of Engineering
Bureau of Project Development	Maine Turnpike Authority

SECTION 101 – CONTRACT INTERPRETATION

101.2 Definitions

The following definitions are added or revised:

Authority - The Maine Turnpike Authority, a body corporate and politic duly created and existing under and by virtue of an act of the Legislature of the State of Maine, Chapter 69 of the Private and Special Laws of 1941, as amended.

Award - The resolution of the Authority at an official meeting expressly authorizing the Executive Director or his designee to notify the successful Bidder that his/her Proposal has been accepted and that he/she is required to execute the Contract Agreement and to furnish satisfactory Bonds.

Environmental Information - Hazardous waste assessments, dredge material test results, boring logs, geophysical studies, and other records and reports of the environmental conditions. For a related provision, see Subsection 104.3.14, Interpretation and Interpolation.

Fabrication Engineer - The Department's representative responsible for Quality Assurance of pre-fabricated products that are produced off-site.

Geotechnical Information - Replace with the following: "Boring logs, soil reports, geotechnical design reports, ground penetrating radar evaluations, seismic refraction studies, and other records of subsurface conditions. For a related provision, see Subsection 104.3.14, Interpretation and Interpolation.

Holidays - The following are extended to include the Holiday Period:

HOLIDAY	HOLIDAY PERIOD
Martin Luther King Day	12:01 a.m. (Midnight) to 11:59 p.m. Martin Luther King Day.
President's Day	12:01 a.m. (Midnight) preceding Friday to 12:01 p.m. following Tuesday.
Easter	12:01 a.m. (Midnight) preceding Friday to 12:01 p.m. following Monday.
Memorial Day	12:01 p.m. preceding Thursday to 6:00 a.m. following Tuesday.
Labor Day	12:01 p.m. preceding Thursday to 6:00 a.m. following Tuesday.
Columbus Day	12:01 a.m. (Midnight) preceding Friday to 12:01 p.m. following Tuesday.
Veterans' Day	12:01 a.m. (Midnight) to 11:59 p.m. Veterans' Day.
Thanksgiving Day	12:01 a.m. (Midnight) preceding Wednesday to 12:01 p.m. following Monday.

Project - The following sentence is added:

All the Work to be performed under the Contract.

Solicitation - Contract proposal sent to a select list of Contractors. Solicitations do include a requirement for a bid bond. Solicitations do not need Maine Turnpike Board Approval for an award.

Turnpike - The entire toll highway, including all approaches, bridges, interchanges, toll facilities, and structures owned by the Maine Turnpike Authority, and authorized by Chapter 69, Private and Special Laws of Maine, 1941, as amended, and located on properties held in the name of the Authority.

Working Day - The Contractor shall not work during the period from 1/2-hour after sunset to 1/2-hour before sunrise, unless otherwise approved by the Resident.

If, after approval, Work is performed on a Saturday, Sunday, or a holiday, the day shall be considered a Working Day.

SECTION 102 - BIDDING

102.1.1 Basic Requirements

This Subsection is amended by the addition of the following:

To be eligible to Bid, prospective Bidders must not have been debarred or suspended from Bidding by the Authority or the Maine Department of Transportation.

102.6 Bid Guaranty

The second paragraph is deleted and replaced with the following:

No Proposal will be considered unless accompanied by a "Proposal Guaranty" in the form of an original bid bond, certified or cashier's check in favor of the Maine Turnpike Authority, in the amount of not less than five (5%) percent of the Total Amount of the Proposal, except that the amount of the check or Proposal Guaranty shall not be less than $500.00. Solicitations do not require a Bid Guaranty.

Sentence (C) of the third paragraph is deleted and not replaced.

102.7.1 Location and Time

The first paragraph is deleted and replaced with the following:

The Proposal and the Proposal Guaranty shall be enclosed in a sealed envelope furnished by the Authority for this purpose, and shall bear on the outside, the name and address of the Bidder as well as the designation of the Project as named in the Proposal form. Proposals will be received at the place and time stated in the Notice to Contractors, Solicitation, or Addendum as determined by the Authority. Proposals received after the time for opening of bids will be returned to the Bidder unopened. See also Subsection 102.11, Bid Responsiveness.

102.7.2 Effects of Signing and Delivery of Bids

Paragraph C, Certifications, is deleted and not replaced.

SECTION 103 - AWARD AND CONTRACTING

103.3.1 Notice and Information Gathering

This Subsection is deleted and replaced with the following:

The Authority will review the Bid Proposals. As a condition for Award of a Contract, the Authority may require an Apparent Successful Bidder to demonstrate to the Authority's satisfaction that the Bidder is responsible and qualified to perform the Work. If such information is required, the Authority, or the Authority’s agent, will contact the Apparent Successful Bidder and request specific information. If requested by the Apparent Successful Bidder, this request can be in writing. The Apparent Successful Bidder shall respond to the request within 24-hours (one work day) unless both parties agree in writing to extend the deadline.

103.3.2 Notice of Determination

The first paragraph is deleted and replaced with the following:

If the Authority determines that a Bidder is “Not Qualified”, the Authority or its representative will notify the Bidder in writing of its determination. The notice will set forth the specific reasons therefore to the extent practical. Such reasons may include the following:

N. Bidder has previously performed Work for the State or for the Authority in an unsatisfactory manner;

O. Bidder does not have the capacity to perform the required Work in the opinion of the Authority;

P. This Project combined with other projects committed to by the Bidder puts him in excess of his capacity in the opinion of the Authority;

Q. Reasonable grounds for believing that the Bidder is interested in more than one Proposal for the Work contemplated;

R. Developments arise which, in the opinion of the Authority, adversely affect the Bidder's responsibility; and/or,

S. Lack of qualifications as determined by the Authority.

The Maine Turnpike Authority Board or Executive Director must approve the Award of a Contract. Once approved, the Contractor will be provided with a "Notice of Award". See Subsection 103.4.

103.3.3 Appeal

"Commissioner" is replaced with "Chief Operations Officer".

The third and fourth paragraphs are deleted and replaced with the following:

Within 14 Days of Receipt of such information and arguments, the Chief Operations Officer will notify the Bidder in writing as to whether the decision of "Not Qualified" is upheld, modified, or reversed. The Chief Operations Officer's decision is final.

After a final determination of "Not Qualified" the Bidder's Bid Guaranty will be returned and the Bidder will be ineligible to bid on future MTA Contracts until the Bidder has been determined "Qualified" by the Maine Turnpike.

103.4 Notice of Award

This Subsection is deleted and replaced with the following:

Within five (5) days of the Maine Turnpike Authority Board or Executive Director approval of a Contract Award, the Authority will transmit to the successful Bidder a Notice of Award along with the Contract Documents for execution by the Contractor. The Authority has the option of notifying the successful low Bidder that the above noted material is available at the Authority for the Contractor to pick-up. The Contractor has 20 days following the Bid Opening to deliver to the Authority the signed Contract Documents, required bonds, insurance certificates, and other required information from the successful Bidder. Once these Documents are submitted to the Authority, the Authority will execute the Contract. If the Authority does not execute the Contract within 30 days of receipt of all the proper requested information, the successful Bidder may withdraw their bid without forfeiture of its Bid Guaranty or bidding eligibility. If the Authority and the successful Bidder agree in writing, an extension may be allowed.

103.5.4 Execution of Contract by Bidder

The first sentence is deleted and replaced with the following:

The properly completed and signed Contract Agreement form provided in the Contract Documents constitutes the Bidder's offer.

103.8 Execution of Contract by Department

This Subsection is deleted and replaced with the following:

The Contract will be awarded or Proposals rejected within twenty (20) days from the date of Proposal openings, except that by mutual written agreement between the Bidders and the Authority, the award may be withheld for any length of time. Any Bidder not agreeing to extend the award date shall be eliminated from the Bid List without prejudice, and their Bid Bond released.

The Contract shall not be binding until the Contract has been executed by the Authority, nor shall any Work be performed on account of the proposed Contract until the Contract has been fully executed and delivered.

SECTION 104 - GENERAL RIGHTS AND RESPONSIBILITIES

104.2.1 Furnishing of Right-of-Way

The first sentence is deleted and replaced with the following:

The Maine Turnpike Authority will secure all necessary rights to real property within the Project Limits shown on the Plans.

104.2.3 Authority of Project Manager and Resident

The following sentences are added:

The Resident is not responsible for supervising the construction Work and is not responsible for monitoring jobsite safety.

The Resident is not authorized to increase the obligation of the Authority to the Contractor, except as specifically set forth in the Specifications.

104.3.5 Duties Regarding Inspection of Work

The following paragraphs are added at the end of Paragraph A. Safe Access:

The Contractor shall furnish the Resident with every reasonable facility for ascertaining whether or not the Work is performed and the materials are furnished in accordance with the requirements and intent of the Contract. Such inspection may include mill, plant or shop inspection. If at any time before acceptance of the Work, the Resident requests it in writing, the Contractor shall remove or uncover such portion of the finished Work as directed. After examination, the Contractor shall restore said portions of the Work to the standards required by the Specifications. Should the Work exposed or examined meet the requirements of the Plans and Specifications, the uncovering or removing and the restoration of the uncovered Work shall be paid for as Extra Work except that no such payment will be made in those cases for which such removal is required by the Plans and Specifications as a part of the Work under the Project. Should the Work not meet the requirements of the Plans and Specifications, the uncovering or removing and restoration shall be at the Contractor's own expense. Any Work done or materials used without suitable supervision or inspection may be ordered to be removed and replaced by the Contractor without extra compensation.

No Work shall be done at night, on weekends, or legal holidays, without prior notice and approval of the Resident. No night Work shall be done until the Contractor has provided an adequate and sufficient source of artificial light to permit examination by the Resident of the suitability of the materials being used and the quality and character of the workmanship.

104.3.7 Laws to be Observed

This Subsection is amended by the addition of the following:

Any section of roadway open to the traveling public is a public way and subject to the applicable rules, regulations, and laws.

104.3.8 Wage Rates and Labor Laws

This Subsection is amended as follows:

A. Federal Wage Rates and Labor Laws is deleted and not replaced.

B. State Wage Rates and Labor Laws.

This Subsection is amended by the addition of the following:

This Contract is governed by the Prevailing Wage Provisions in Title 26, Chapter 15 of the Maine Revised Statutes Annotated. State Wage Rates, if applicable to the Contract, will be included in the Special Provisions.

Fair Minimum Wages

The hourly wage rate paid to laborers of the General Contractor and all Subcontractors shall not be less than the prevailing hourly rate of wages for Work of similar character in the State of Maine. The fair minimum hourly rates determined by the State of Maine Department of Labor for this Contract are included as part of this Contract.

A copy of the Wage Determination(s) shall be provided by the Contractor to all Subcontractors on the Project. In addition, the Wage Determination(s) must be kept posted at the Work site by the Contractor and by all Subcontractors at a prominent location, easily accessible by the workers. On a Project where there is no such location, a Contractor may comply with this requirement by providing each worker with a copy of the Wage Determination(s) within the first full day that the worker works on that Project. The Contractor must be able to document that each worker has received a copy of the Wage Determination(s).

Records

The Contractor and all Subcontractors shall keep an accurate record noting:

- The name and occupation of each and all laborers, workmen, and mechanics employed by them, and all independent Contractors working under Contract to them in connection to the Project;
- Number of hours worked;
- Title of the job;
- Hourly rate or other method of remuneration for the job; and,
- Actual wages or other compensation paid to each of the laborers, workmen, mechanics, and independent Contractors.

A copy of this record must be kept at the jobsite and shall be available at all reasonable hours to the inspection of the Bureau of Labor and/or the Maine Turnpike Authority, its officers and agents. These records must be preserved for a minimum of three (3) years after the completion of the Contract.

A copy of each record must be filed monthly with the Maine Turnpike Authority. This information shall be sent directly to the Maine Turnpike Authority, Director of Engineering and Building Maintenance, Attention: Wage Rate Records, 2360 Congress Street, Portland, ME 04102. The records shall note the Maine Turnpike Contract Number.

The Contractor and all Subcontractors are subject to penalties described in Title 26, Chapter 15 of the Maine Revised Statutes Annotated, for any violations of the Fair Minimum Wage Rates Policy for the State of Maine.

104.3.11 Responsibility for Property of Others

This Subsection is amended by the addition of the following:

The Contractor shall respond to all damage claims in writing, within 30 days, to the party making a damage claim. The response shall state that the Contractor accepts responsibility for the damage or outlines the reasons why the claim has been denied. If the Contractor has turned the claim over to their insurance agent or carrier, the name of the agent or carrier, along with the contact person, address and telephone information shall be included in the response to the claimant and a copy to the Authority. A standard form letter denying the claim without an explanation of the situation shall be unacceptable. A copy of the response letter shall be submitted to the Authority within the 30 day response time. The Authority shall review the response letter and will determine if the Contractor has replied in a responsive manner. If the Authority does not receive a response letter or action report from the Contractor within the 30 day response time, the Authority will determine if the Contractor is responsible for the claimed damage. If, in the absence of the Contractor's response or action report, the Authority deems the claim to be valid, the Authority will at its option pay the damage claim and deduct the amount of the claim from the Contractor. The Contractor will not be entitled to recoup these funds if their response was not transmitted within the 30 day response time. The Authority will not intervene in any claim actions where the Contractor's insurance carrier is conducting a valid, ongoing claim investigation.

104.3.14 Interpretation and Interpolation

The first sentence is change from "...and Geotechnical Information." to "...Environmental Information, and Geotechnical Information".

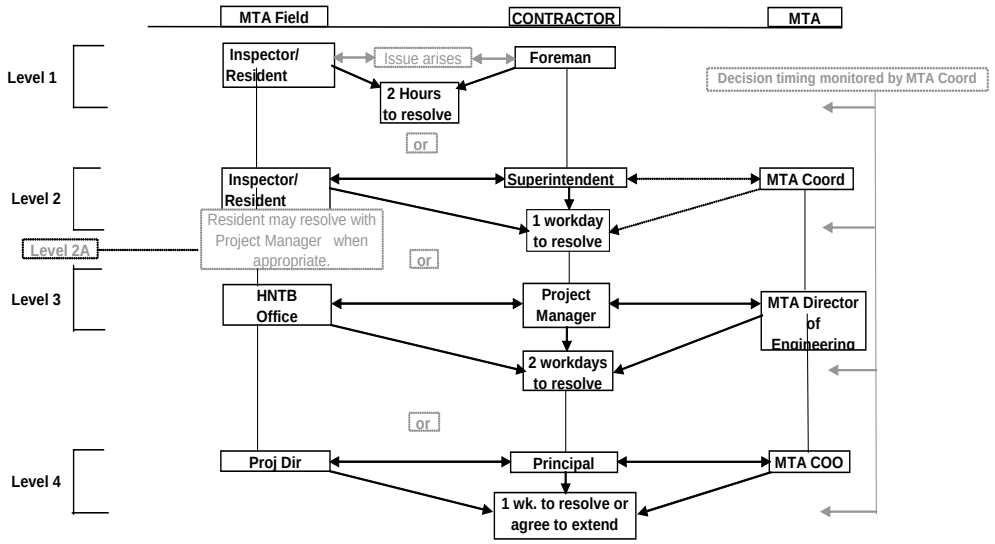
104.4.2 Preconstruction Conference

The following Matrix is added:

Project Decision Matrix

A Project "communication decision tree" will be developed mutually by the Authority and the Contractor during either the preconstruction meeting or partnering session. This Decision Matrix will clearly define, by descriptive job title and name, the respective counterparts for the Authority, and the Contractor who will be responsible for resolving issues at their respective levels of communication. Each level of communicators will be assigned a dollar magnitude of authority and a designated period of time within which all disputed issues must either be resolved or referred to the next higher level of communicators. The purpose of this Decision Matrix is to accelerate the resolution of decisions, to promote resolution at the lowest possible level, and to reduce the number of issues that become disputes.

The following is a sample of the Decision Matrix:



Level 5 **If an issue is not resolved at Level 4, the matter becomes a Dispute. Refer to Section 111**

Notes:

1) **Each project will enter names in all title boxes at Preconstruction or Partnering sessions.**
2) **Substitute names will be provided for all key decision levels.**
3) **Each decision level will be empowered with a maximum dollar guidance value.**
4) **Issues will automatically bounce up to next level if decision time limits are surpassed.**

104.4.5 Early Negotiation

The second paragraph in Part A is deleted and replaced with the following:

Such notice may not be verbal. Notice shall be in the form of a written memo with signatures representing both the Owner and Contractor or shall be in the form of meeting minutes within 14 days of the date that the issue became known. Meeting minutes shall not be valid documentation until they are accepted by the Resident and the Contractor.

Paragraph C, Additional Consideration, is deleted and not replaced. See related Subsection 104.4.2.

104.4.7 Cooperation With Other Contractors

This Subsection is amended by the addition of the following:

The Contractor shall cooperate with the Maine Turnpike Authority. The Authority reserves the right to conduct maintenance operations and to erect and remove traffic control devices as deemed necessary by the Authority or the Resident within or adjacent to the Project.

The Contractor shall note that other contracts may be awarded for Work adjacent to this Contract and these shall be considered adjacent contracts. The Contractor shall cooperate with other Contractors and the Resident so that all Work can be completed in a safe and timely manner. The Resident may direct the Contractor to revise the Work or schedule based on Work that is ongoing in the adjacent Contract. The Contractor's Superintendent or Project Manager shall attend coordination meetings with the Resident and the adjacent Contractors at least once every two weeks. All Contractors bear the full responsibility of cooperation and coordination with each other in the planning and scheduling of traffic closures, stoppages, and other construction activity. The Resident's responsibility for coordination is limited to the timely dissemination of all schedules and information submitted by adjacent Contractors. Neither the Resident, nor the Maine Turnpike Authority, shall bear any responsibility for costs resulting from a Contractor's failure to submit all information as required. Issues and concerns not presented for review and discussion at joint Contractor meetings will not later be cause for claims. This cooperation shall be completed at no additional cost to the Authority.

The Contractor working on an adjacent section may require the placement of temporary construction signs and traffic control devices within this Project area. The placement and maintenance of these devices by another Contractor shall be allowed in this Contract at no additional cost to the Authority.

104.4.10 Coordination of Bridge Closure/Bridge Width Restriction Notification

This Subsection is deleted and replaced with the following:

The Contractor shall notify the Authority a minimum of two (2) weeks prior to the date of closure/restriction with the date on which the closure/restriction will begin and the anticipated duration of the closure/restriction. The Authority will be responsible for notification to others.

104.5.9 Landscape Subcontractors

This Subsection is deleted and replaced with the following:

The Contractor shall retain only Landscape Subcontractors that are certified by the Maine Department of Transportation Environmental Office Landscape Unit.

SECTION 105 – GENERAL SCOPE OF WORK

Scope of Section

The second paragraph is deleted and replaced with the following:

This Contract is not federally funded.

105.1 Intent of the Contract

This Subsection is amended by the addition of the following:

The Plans and Specifications complement and supplement each other. Should any Work be required, which is not denoted on the Plans or in the Specifications because of an omission, but which is nevertheless necessary for the proper performance and completion of the Project, such Work shall be fully performed as if it were described and delineated. Should any misunderstanding arise as to the intent or meaning of said Plans and Specifications, refer to Subsection 104.4.4, Requests for Information.

The silence of the Specifications, Plans, or other supplemental documents as to any detail, or the apparent omission from them of a detailed description concerning any point, shall be regarded as meaning that only material and workmanship of excellent quality are to be used.

105.2.3 Joint Duty Regarding Safety

The first sentence is amended as follows:

The “Contractor’s TCP” is deleted and replaced with “Traffic Control Plan”.

This Subsection is amended by the addition of the following:

Nothing in the foregoing paragraphs shall be construed as relieving the Contractor from full responsibility for safe prosecution of the Work at all times. The Resident is not responsible for jobsite safety.

The following Subsection is added:

105.2.4.1 Lockout/Tagout Procedures

Prior to the start of Work, the Contractor and the Maine Turnpike Authority shall exchange and review the other party's Lockout/Tagout Procedures for the control of hazardous energy. If the Lockout/Tagout Procedures are similar and neither party has concerns, the two parties shall agree to abide by the procedures of the other party. Only the authorized individual who locked or tagged-out a circuit or piece of equipment is permitted to remove the lockout/tagout, except as provided for in the respective Lockout/Tagout Procedures.

Should either the Contractor or the Maine Turnpike Authority have concerns with the other party's Lockout/Tagout Procedures, the Safety Officers of the Contractor and the Maine Turnpike Authority shall meet, discuss and resolve the areas of concern. The Authority reserves the right to have the Contractor comply with the restrictions and prohibitions of the Maine Turnpike Authority's Lockout/Tagout Procedures if the Authority determines the Contractor's Lockout/Tagout Procedures are inadequate to protect the Authority's employees and patrons.

105.4.1 Maintenance During Construction

This Subsection is amended by the addition of the following:

Paved Surface - The Contractor is responsible for maintaining the existing paved shoulder, ramps, and travel lanes on the Maine Turnpike in good condition. The presence of tracked-dirt on the paved surfaces is unacceptable. The Resident shall have the sole authority to determine the acceptability of the paved surfaces. The use of stabilized construction entrances and frequent sweeping of the shoulder are the responsibility of the Contractor and shall be completed at no additional costs to the Authority.

Gravel Surface - The Contractor is responsible for maintaining gravel surfaces that are used for traffic in good condition. Potholes and wheel ruts are unacceptable. The Resident shall have the sole authority to determine the acceptability of the surfaces. Repairing the surfaces are the responsibility of the Contractor and shall be completed at no additional costs to the Authority.

Signs and Delineators - The Contractor is responsible for maintaining all mile markers, delineator, and signs including regulatory, warning, and guide signs during construction. Maintenance of signs shall mean that signs are clearly visible to motorists at the required height during construction. These items shall be kept in their existing location as long as is practicable. At no time shall any signs not be visible to the

driver. Construction material or equipment shall not obscure signs. This Work shall be accomplished at no additional cost to the Authority.

Erosion and Sedimentation Control - The Contractor shall plan their operations to protect existing Work from erosion. The Contractor is responsible for the inspection and maintenance of all erosion and sedimentation control devices until final acceptance. No payment will be made to repair failed areas if the Best Management Practices had not been utilized prior to a weather event.

105.4.3 Maintenance During Winter Construction

This Subsection is amended by the addition of the following:

The Maine Turnpike Authority will be responsible for winter maintenance including snow removal and application of salt on Maine Turnpike pavement open to traffic.

105.5.1 General Requirements

This Subsection is amended by the addition of the following:

Toll Free Passage on the Turnpike

The Contractor shall be granted free use of the turnpike for movement of vehicles, labor and equipment and for delivery of material essential to the Work. The Contractor will be issued cards with the Contract Number and Contractor Name while working on the Project. The cards shall be transferable and distributed by the Contractor to employees and vehicles working on the Project. The cards may only be used while working on the Project designated on the cards. Such free use shall be limited to the portion of the turnpike between the site of the Work and the nearest practicable exit including movement of vehicles, labor, equipment and materials from one site to another Work site. All vehicles must stop at a manned lane at the toll plazas to present the cards to the toll attendant. Vehicles without the required cards shall pay the required toll. This shall not be a reimbursable expense. The Contractor shall advise the Resident of the number of cards that are required. All cards shall be returned to the Resident at the completion of the Project. The use of the cards for toll free travel shall be revoked if the cards are misused. The Contractor shall nevertheless comply with regulations of the Authority relating to use of the turnpike and with established controls for non-revenue vehicles.

Existing Access

All existing access from local roads to the Maine Turnpike shall remain passable to emergency vehicles at all time. At no time shall construction equipment or material block these roads. Any misuse of this privilege will result in the Contractor's loss of access through these gates. The Contractor shall provide a lock and a piece of chain to link to the existing padlock on the gate allowing access to the Contractor and emergency vehicles.

Access From Local Roads

The Contractor shall not impact wetlands or streams to construct access to the Project. The Contractor may construct temporary access to the turnpike to facilitate the Project. Any damage caused to private property or local roads as a result of the access shall be repaired at the Contractor's own expense. The Contractor shall prepare a written plan outlining the proposed access.

At a minimum, the plan shall outline the following:

- Estimated number of vehicles;

- Time and duration of operation;
- Types of vehicles to use the access;
- Plans to construct a stabilized construction entrance;
- Plan to keep the local road free of tracked-mud and dust;
- Plan to control access to prevent unauthorized use;
- Restoration plan; and,
- Written permission from private property owners (if required).

The Contractor is required to retain the services of qualified flaggers to control the Contractor's operation at the local road access. Flaggers shall be present whenever construction vehicles are utilizing the access. The Contractor shall be responsible for constructing a gate across the access point to prohibit unauthorized access. The Contractor shall also construct a stabilized construction entrance in accordance with the MaineDOT Best Management Practices. All cost associated with the access including, but not necessarily limited to, the construction, restoration, flaggers, gate, and stabilized construction entrance shall be the responsibility of the Contractor. Failure to utilize flaggers will result in termination of permission to use local roads for access. Failure to keep local roads clear of tracked-mud will result in termination of permission to use local roads for access.

Construction Access

The Contractor shall construct a stabilized construction entrance in accordance with the Best Management Practices at all locations where construction vehicles will exit the mainline and/or enter the existing paved shoulder from a non-paved area. The Resident shall approve of the locations. The stabilized construction entrance shall be constructed in conjunction with the clearing activities or other early activities. Additional stabilized construction entrances may be required due to the Contractor's operations as well as site conditions. The construction and maintenance of the stabilized construction entrance shall be incidental.

Change of Direction

The Contractor will not be permitted to reverse directions (U-turns) at the toll plazas or at interchanges. All vehicles must exit the turnpike prior to reversing directions.

The Contractor shall not use the median openings on the turnpike unless the opening is located within passing lane closures on both roadways. The Contractor will be assessed a fine every time any employee of the Contractor, Subcontractor or supplier is observed using a median opening by a Resident or turnpike employee anywhere on the Maine Turnpike throughout the duration of the Contract. The fine will be deducted from monies owed to the Contractor.

The fines will be levied on a per occurrence basis as follows:

NUMBER OF OCCURRENCES	FINE
First	$100

For the second occurrence, and any occurrence thereafter, the fine is increased by $100 per each occurrence. The number of occurrences is not specific to a Contract, an individual or a vehicle, but based solely on the number of times any employee of the Contractor, Subcontractor or supplier is observed using a median opening anywhere on the Maine Turnpike. The Contractor shall be notified in writing of the violation by the Authority.

105.6 Construction Surveying

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

105.6.1 Authority Provided Services

The Authority will provide the Contractor with the description and coordinates of vertical and horizontal control points, set by the Authority, within the Project Limits, for full construction Projects and other Projects where survey control is necessary. For Projects of 1,500 feet in length, or less: The Authority will provide three points. For Projects between 1,500 and 5,000 feet in length: The Authority will provide one set of two points at each end of the Project. For Projects in excess of 5,000 feet in length: The Authority will provide one set of two points at each end of the Project, plus one additional set of two points for each mile of Project length. For non-full construction Projects and other Projects where survey control is not necessary, the Authority will not set any control points and, therefore, will not provide description and coordinates of any control points: Upon request of the Contractor, the Authority will provide the Authority's survey data management software and Survey Manual to the Contractor, or its survey Subcontractor, for the exclusive use on the Authority's Projects.

105.6.2 Contractor Provided Services

Utilizing the survey information and points provided by the Authority, described in Subsection 105.6.1, Authority Provided Services, the Contractor shall provide all additional survey layout necessary to complete the Work. This may include, but not necessarily be limited to, reestablishing all points provided by the Authority, establishing additional control points, running axis lines, providing layout and maintenance of all other lines, grades, or points, and survey quality control to ensure conformance with the Contract. The Contractor is also responsible for providing construction centerline, or close reference points, for all utility facility relocations and adjustments as necessary to complete the Work. When the Work is to connect with existing structures, the Contractor shall verify all dimensions before proceeding with the Work. 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 Authority as provided by Subsection 104.3.3, Duty to Notify Department If Ambiguities Discovered.

105.6.2.1 Quality Control

The Contractor is responsible for all construction survey quality control. Construction survey quality control is generally defined as, first, performing initial field survey layout of the Work and, second, performing an independent check of the initial layout using independent survey data to assure the accuracy of the initial layout; additional iterations or checks may be required if significant discrepancies are discovered in this process. Construction survey layout quality control also requires written documentation of the layout process such that the process can be followed and repeated, if necessary, by an independent survey crew.

105.6.3 Quality Assurance

It is the Authority's prerogative to perform construction survey quality assurance. Construction survey quality assurance may or may not be performed by the Authority. Construction survey quality assurance is generally defined as an independent check of the construction survey quality control. The construction survey quality assurance process may involve physically checking the Contractor's construction survey layout using independent survey data, or may simply involve reviewing the construction survey quality control written documentation. If the Authority elects to physically check the

Contractor's survey layout, the Contractor's designated surveyor may be required to be present. The Authority will provide a minimum notice of 48-hours to the Contractor, whenever possible, if the Contractor's designated surveyor's presence is required. Any errors discovered through the quality assurance process shall be corrected by the Contractor, at no additional cost to the Authority.

105.6.4 Boundary Markers

The Contractor shall preserve and protect from damage all monuments or other points that mark the boundaries of the right-of-way or abutting parcels that are outside the area that must be disturbed in order to perform the Work. The Contractor indemnifies and holds harmless the Authority from all claims to reestablish the former location of all such monuments or points including claims arising from 14 MRSA § 7554-A. For a related provision, see Subsection 104.3.11, Responsibility for Property of Others.

105.7.1 General

The following paragraphs are added:

Within ten (10) days after the date of execution of the Contract, the Contractor shall inform the Resident in writing of the sources from which he proposes to obtain the materials required for the Project and statements of quality of these materials as hereinafter required in Subsection 106.01, Roles Regarding Quality. Information or materials not required to be incorporated in the Work within six (6) months after said date of execution, may be furnished within thirty (30) days.

Prior to the approval of the submittal, any Work done or materials ordered shall be at the Contractor's own risk. All submittals shall be stamped and signed by the Contractor verifying their approval of the Shop Drawings.

Prior to forwarding submittals to the Resident for review and approval, the Contractor shall mark the Item Number on each submittal for identification, thoroughly check the submittals for compliance with the Contract Documents, and place its stamp of approval on each sheet certifying that the Contractor has so checked each submittal. The Contractor shall certify that "This Shop Drawing has been thoroughly checked and complies with the Contract Documents and field measurements and the item fits with adjoining Work except as noted". Submittals which do not contain this stamp of approval and certification, or which are incomplete, have not been checked, have been checked only superficially, or contain numerous errors, will be returned un-reviewed by the Resident for resubmission by the Contractor. Delays in obtaining approvals, other than those caused by the Authority, are not grounds for granting an extension of time. Disclaimers by the Contractor, any Subcontractor, or supplier of responsibility for any requirements of the Contract Documents, will not be accepted by the Authority and will be deemed invalid.

The following submissions are required if applicable to the Work:

- Construction plans for access
- Project master schedule
- Updated schedules as required
- Shop Drawings
- Spill Prevention Control and Countermeasure (SPCC) Plan
- Traffic control plans
- Temporary earth support system submission
- Bridge beam or structural steel erection plan

105.7.4 Submittal Requirements

The second paragraph is deleted and replaced with the following:

For the first and subsequent submittals, the Contractor shall submit a minimum of seven (7) sets of drawings to the Resident on the size sheets required unless otherwise directed by the Resident.

105.8.1 Temporary Soil Erosion and Water Pollution Control

This Subsection is amended by the addition of the following:

Spill Prevention Control and Countermeasure (SPCC) Plan

Any areas where petroleum products, oils or hazardous materials are handled or stored will require a Spill Prevention Control and Countermeasure (SPCC) Plan. The Plan will be submitted to the Resident before construction begins for review and approval. At a minimum, the Plan shall provide the following information:

1. Name of person who is responsible for spill prevention;

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

3. Description of storage and containment facilities;

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 jobsite. 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 is considered incidental to the Work.

ENVIRONMENTAL STANDARDS

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:

1. Temporary erosion control measures shall be maintained until the site is permanently stabilized with vegetation or other permanent control measures.

2. 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.

3. 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.

4. 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. Any additional requirements are outlined in Subsection 107.261 of the Special Provisions.

5. Disturbance of natural resources beyond the construction limits shown on the Plans is not allowed.

6. Bare earth slopes shall be roughened to dissipate sheet flow. This shall be accomplished by "tracking" the slope perpendicular to the centerline. No bare earth shall be maintained for more than five days without surface roughening. This Work will not be measured separately for payment, but shall be incidental to the Excavation item.

7. 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.

8. 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.

9. 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 will not be measured separately for payment, but shall be incidental to the Excavation item.

105.10 Equal Opportunity and Civil Rights

105.10.1 Requirements Applicable to Federally Funded Contracts

This Subsection is deleted and not replaced.

105.10.2 Requirements Applicable to All Contracts

The following is added after Paragraph (A), Maine Code of Fair Practice and Affirmative Action, Paragraph 4).

The Maine Turnpike Authority is an equal opportunity employer and as such, requires all Contractors to pursue in good faith affirmative action programs.

THEREFORE;

The Contractor hereby agrees to the following requirements:

1. The Contractor will pursue an affirmative action program which includes procedures designed to increase the numbers of minorities, women, and handicapped at all levels and in all segments of the workforce where imbalances exist. Such a program should include an assessment of the existing situation, and the development of realistic goals for necessary actions. These goals and related procedures and timetables should not require rigid quotas but are commitments which the Contractor should make every good faith effort to achieve.

2. In connection with Contracts in excess of $250,000, the Contractor will insure contractually that all Subcontractors shall also pursue an affirmative action program meeting the above requirements. The Contractor shall also ensure contractually that all Subcontractors with Contracts in excess of $50,000 pursue an affirmative action program meeting the above requirements.

3. An affirmative action program will provide that no Contractor and/or Subcontractor will discriminate against an employee or applicant for employment because of race, color, religious creed, sex, national origin, ancestry, age, physical handicap or mental handicap unless based upon a bona fide occupational qualification. Such action shall include, but not necessarily be limited to, the following; employment, upgrading, demotions, transfers, recruitment or recruitment advertising, layoffs or terminations, rates of pay and compensation, and selection for training and apprenticeship.

Paragraph (D), Prevention of Sexual Harassment, is deleted and replaced with the following:

Contractors are responsible, under Maine State Law, for ensuring and maintaining a Work environment that is free from sexual harassment. The Contractor shall comply with all relevant provisions of Maine State Law in regard to sexual harassment including, but not necessarily limited to, 5 MRSA 4572, 26 MRSA 806-807, and the regulations of the Maine Human Rights Commission.

Subsections 105.10.2 (E), DBE Reporting Requirements, and (F), Certification of Continuing EEO Efforts, are deleted and not replaced.

105.11 Other Federal Requirements

This Subsection is deleted in its entirety and not replaced.

The following Subsection is added:

105.12 Limitations of Operations

The Contractor shall keep the existing shoulder clear of construction activity except for the period of shoulder reconstruction. The Contractor shall not park or store construction equipment, vehicles, or materials on the shoulder. Construction vehicles shall not enter the mainline travel lane until they can safely merge with the traffic in the travel lane. The construction access shall be in accordance with the details in the Plans. The Resident must approve all shoulder closures.

Existing drainage shall be maintained at all times. All ditches that discharge into wetlands shall have a series of stone check dams installed in the ditch near the outlet prior to the commencement of clearing activities in the area.

SECTION 106 – QUALITY

106.3.3 Sources

Paragraph A, General, is amended by the addition of the following:

Preference in the purchase of supplies and materials, other considerations being equal, shall be given in favor first of supplies and materials manufactured and sold within the State of Maine, and second, of supplies and materials manufactured within the United States. Materials and supplies sold outside the United States will be considered third in the preference order.

106.3.4 Storage

This Subsection is amended by the addition of the following:

The Contractor shall be responsible for the security of all storage areas. Materials and supplies that are stolen, damaged or otherwise made unacceptable while in storage shall be replaced in kind at the Contractor's own expense.

106.3.7 Sampling and Testing

The forth paragraph is deleted in its entirety and not replaced.

106.6 Acceptance

All paragraphs after the first paragraph are deleted and not replaced.

106.8.3 Unauthorized Work

The following paragraphs are added:

No omission or failure on the part of the Resident to disapprove or reject any Work or material shall be taken to be an acceptance of any defective Work or material. Within the time set by the Resident, the Contractor shall remove any Work or material condemned by the Resident and shall rebuild and replace the same without extra compensation and in default thereof the removal and replacement may be done by the Authority at the expense of the Contractor; or, in case the Resident should not consider the defect of sufficient importance to require the Contractor to rebuild or replace any imperfect Work or material, he shall have power, and is hereby authorized, to make an equitable deduction from the Contract price.

Materials which do not conform to the requirements of these Specifications shall be considered as defective and will be rejected, whether in place or not, and shall be removed from the Project. No material which has been rejected, the defects of which have been corrected or removed, shall be used until approved by the Resident in writing.

SECTION 107 – TIME

The following Subsection is added:

107.1.1 Substantial Completion

An 80 percent reduction of retainage will be considered by the Authority when the Project is substantially complete. The Contractor shall include an explanation of the outstanding Work, an estimate of the cost to complete the Work, and a schedule for completing the Work. Seasonal limitations as well as warranty and establishment periods (for vegetation) shall be addressed.

107.3.1 General

This Subsection is amended as follows:

See related Subsection 101.2, Definitions: Holidays.

Work that impacts traffic may be subjected to further restrictions. See related Special Provision Section 652.

107.3.2 Night Work

This Subsection is amended by the addition of the following:

- The Maine Turnpike encourages the Contractor to construct the Project cost effectively while maintaining quality and conformance with all Federal, State and local laws. To facilitate this process, the Maine Turnpike recognizes that the Contractor may choose to construct portions of the Project at night.
- The following is a partial list of activities that would be favorably considered for night construction. The final determination of applicability by the Authority will be based on the Contractor's plan of operation. The Contractor shall demonstrate that the Work can be accomplished in conformance with the appropriate regulations.

Highway Related Work

- Installation and removal of traffic control devices (drums, concrete barrier, impact attenuators)
- Installation and removal of painted pavement markings
- Placement of pavement
- Sawcutting of pavement
- Installation and removal of guardrail

Bridge Related Work

- Delivery of materials (except oversize loads)
- Placement and removal of pier forms
- Shielding of old and new bridge
- Installation and removal of deck and diaphragm forms
- Installation and removal of overhang brackets
- Field painting and preparation of damaged paint areas
- Application of penetrating sealers
- Installation of sign panels on sign bridges

107.3.3 Sundays and Holidays

This Subsection is amended by the addition of the following:

"Saturday" is added before Sunday.

Requests to work outside of the allowable periods must be submitted in writing and approved by the Resident prior to the start of Work. Approval for Work, that in the Authority's opinion will not significantly impact traffic flow, will not be unreasonably withheld.

107.4.2 Schedule of Work Required

This Subsection is amended by the addition of the following:

No Pay Requisition will be approved for payment until the schedule requirement is fulfilled and accepted by the Maine Turnpike Authority.

In addition to the Schedule required hereinbefore, the Contractor shall submit, no later than 12:00-noon every Thursday, a detailed plan of his operations for the following week. This plan shall show the type of Work to be done and the traffic lanes that are to be impacted. This updated plan will be used by the Resident to schedule the appropriate resources and inform other interested parties of the proposed Work.

107.4.4 Schedule Revisions

This Subsection is amended by the addition of the following:

The progress of Work shall be compared against the Schedule of Work at a job meeting once every month. If the Authority determines that the Contractor's actual progress is not in substantial conformity with the Schedule of Work, then the Contractor shall submit a revised Schedule of Work to the Authority depicting the increased or decreased variations in activity durations and milestones as compared to previously submitted schedule(s). If noted in the meeting minutes, or directed in writing by the Resident, the Contractor shall submit a revised Schedule to the Authority within one week of the request. If a revised realistic Schedule is not received within one week of the request, the monthly pay requisition will be withheld. Failure to modify completion dates without a commitment to modify Project resources shall be deemed an unrealistic Schedule unless the particular activity had adequate float.

107.7.2 Schedule of Liquidated Damages

The table of liquidated damages is deleted and replaced with the following:

Original Contract Amount From More Than	Original Contract Amount up to and Including	Amount of Liquidated Damages per Calendar Day
$0	$100,000	$100
$100,000	$300,000	$200
$300,000	$500,000	$400
$500,000	$1,000,000	$575
$1,000,000	$2,000,000	$750
$2,000,000	$4,000,000	$900
$4,000,000	and more	$1,875

This Subsection is amended by the addition of the following:

At the option of the Authority, the Contractor may be held responsible for all costs incurred by the Authority which are due to any Work that remains incomplete after the time specified for the completion of the Contract, in addition to the daily calendar day charge.

107.9.1 Final Clean-up and Finishing

This Subsection is amended by the addition of the following:

No separate payment will be made for final clean-up and restoration of property, but the cost thereof shall be included in the prices bid for the various items scheduled in the Proposal.

SECTION 108 - PAYMENT

108.1 Measurement of Quantities for Payment

This Subsection is amended by the addition of the following:

The quantities in the Schedule of Items are the approximate totals. The breakdown of quantities for various locations is approximate and is for information only. No change in the bid price will be considered for changes in the actual quantities at each location except as provided for in Subsection 109.1, Changes in Quantities.

108.1.2 General Measurement Provisions

The first sentence is deleted and replaced with the following:

The Maine Turnpike Authority will utilize the U.S. Customary system for all units of measurement.

108.1.3 Provisions Relating to Certain Measurements

This Subsection is amended by the addition of the following:

No allowance will be made for surface laid over a greater area than indicated on the Plans or otherwise authorized, or for excavation removed or embankment placed beyond the slope lines shown on the cross-sections, except as otherwise specifically noted or authorized by the Resident in writing.

108.2.1 Generation of Progress Payment Estimates

The first paragraph is deleted and replaced with the following:

The Resident will make current estimates in writing once each month, on or before the date set by the Resident at the time of starting Work, or from time to time as the Work progresses. Progress payments twice per month will not be allowed. The estimate shall include all materials complete in place and the amount of Work performed in accordance with the Contract, during the preceding month or period and the value thereof figured at the unit prices contracted together with estimates of the cost of Extra Work performed during the same period. Estimates or payments will not be made, if in the opinion of the Resident, the Work is not proceeding in accordance with the provisions of the Contract. The Contractor agrees to waive all claims relating to the timing and amount of such estimates.

108.2.2 Payment

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

The Maine Turnpike Authority will make payment within 30 days of Contractor and Resident concurrence of progress payment.

108.2.3 Mobilization Payments

The second paragraph is deleted and replaced with the following:

A. The first payment of 50 percent of the lump sum price for mobilization or five percent of the original Contract Amount, whichever is less, will be made with the first monthly estimate.

B. The second payment of 25 percent of the lump sum price for mobilization or 2.5 percent of the original Contract Amount, whichever is less, will be made following completion of 25 percent of the proposed Contract Amount.

C. The third payment of 25 percent of the lump sum price for mobilization or 2.5 percent of the original Contract Amount, whichever is less, will be made following completion of 50 percent of the proposed Contract Amount.

D. Upon substantial completion of the Work on the Project, as determined by the Resident, payment of any amount bid for mobilization in excess ten percent of the original Contract Amount will be paid.

All payments are subject to standard retainage.

Demobilization will not be measured separately for payment, but shall be incidental to Item 659.10, Mobilization.

108.3 Retainage

This Subsection is deleted and replaced with the following:

From the total of the amounts so ascertained there will be deducted an amount equivalent to 7.5 percent of the whole, to be retained by the Authority until after the completion of the entire Contract in an acceptable manner, and the balance, or a sum equivalent to 92.5 percent of the whole shall be certified by the Resident to the Authority for payment.

If it became evident, on the basis of approved progress schedules, or otherwise, that the completion date for the Contract will not be met, the Authority reserves the right to retain the amount of the liquidated damages which have apparently accumulated, in addition to 7.5 percent of the value of the Work done to date.

If at any time there shall be evidence of any lien or claim for which, if established, the Authority might become liable and which is chargeable to the Contractor, the Authority shall have the right to retain out of any payment, then due or thereafter to become due, an amount sufficient to completely indemnify the Authority against such lien or claim.

If the Contractor elects to furnish to the Authority a surety bond in the amount of twice the amount of all liens or claims pending against the Contractor, then the Authority will not exercise the aforementioned right to make retention out of payments on account of such liens or claims.

The payment of any current estimates or of any retained percentages shall in no way affect the obligations of the Contractor to repair or renew any defective parts of the construction and to be responsible for all damage due to such defect.

All material estimates and payments shall be subject to correction in subsequent partial estimates and payments and on the final estimate and payment.

108.4 Payment for Materials Obtained and Stored

The first paragraph is amended as follows:

In the second sentence, the words "...Delivered on or near the Work site at acceptable storage places." are deleted and not replaced.

108.4.1 Price Adjustment for Hot Mix Asphalt

This Subsection is deleted and replaced with the following:

For Contracts containing an excess of 5,000 tons of bituminous pavement, an asphalt price adjustment will be made for all bituminous concrete placed six (6) months after the bid date of the Contract. No asphalt price adjustment will be allowed for Contracts containing less than 5,000 tons. For Contracts containing more than 5,000 tons, no adjustment will be made for asphalt placed at any time within six months of the bid date.

Price adjustment will be based on the variance in cost for the performance-graded binder component of the hot mix asphalt. The quantity of hot mix asphalt for each pay item will be multiplied by performance graded binder given in the table below, times the difference in price in excess of ten percent between the base price and the period price of asphalt cement. Adjustments will be made upward or downward, as prices increase or decrease. The quantity of Hot Mix Asphalt will be determined from the quantity shown on the progress estimate for each pay period. The base price of performance graded binder to be used is the price per standard ton current with the bid opening date. The period price shall be determined by the Authority and shall be the price per standard ton current with the ending date of the progress estimate. The prices shall be determined by using the average N.E. Barge Price, FOB, as listed in the Asphalt Weekly Monitor.

Plant Mix B Pavement	4.0%
Hot Bituminous Pavement Grading B	4.5%
Hot Bituminous Pavement Grading C	5.5%
Hot Bituminous Pavement Grading D	5.5%
Hot Bituminous Pavement Grading E	5.5%

108.5 Right to Withhold Payment

This Subsection is amended by the addition of the following:

L. Contractor's failure to, or refusal to, remove within 24-hours after receipt of proper notice, any employee or person engaged in Work under Contract.

M. Contractor's failure to submit required schedule or schedule updates.

108.6 Taxes, Fees, Allowances, and Notices

This Subsection is amended by the addition of the following:

The Maine Turnpike Authority, an agency of the State of Maine, is exempt from payment of sales tax, under the present Maine Sales Tax Law, on any property purchased by it at retail for consumption. The Maine Tax Bureau has interpreted this to mean that all materials purchased by the Contractor which ultimately remain the property of the Maine Turnpike Authority, even though in a changed form, are not subject to the sales tax.

108.8 Final Payment

This Subsection is amended by the addition of the following:

Before final payment is made, the Contractor shall furnish to the Authority, on the forms prescribed (Sheet F-1), a sworn affidavit to the effect that no claims are pending. If such affidavit that claims have been paid cannot be given because of a dispute as to the amount or legality of such claim, the Contractor's affidavit shall clearly set out the facts as to the name, address, amount, and nature of the dispute. The Authority will review the matter and will make payment that the Authority deems is appropriate to the Contractor.

SECTION 109 – CHANGES

109.1.1 Changes Permitted

The following is added to the end of the paragraph:

There will be no adjustment to Contract Time due to an increase or decrease in quantities, compared to those estimated, except as addressed through Contract Modification(s).

109.1.2 Substantial Changes to Major Items

The following is added to the end of the paragraph:

Contract Time adjustments may be made for substantial changes to Major Items when the change affects the Critical Path, as determined by the Authority.

109.3 Extra Work

The following paragraphs are added:

No Extra Work shall be performed except pursuant to the written orders of the Resident, expressly and unmistakably indicating its intention to treat the Work described therein as Extra Work.

If the Contractor determines that Work directed by the Resident is Extra Work, he shall, within 48-hours, give written notice thereof to the Resident stating why he deems it to be Extra Work and shall furnish to the Resident daily time slips and memoranda for the purpose of affording to the Authority an opportunity to verify the Contractor's claim at the time and (if it desires to do so) cancel promptly such order, direction or requirement of the Resident.

Accordingly, the failure of the Contractor to serve such notice or to furnish such time slips and memoranda shall be deemed to be a conclusive and binding determination on his part that the direction,

order or requirement of the Resident does not involve the performance of Extra Work, and shall be deemed to be a waiver by the Contractor of all claims for additional compensation or damages by reason thereof.

Refer to related Subsections 104.4.2, Preconstruction Conference, and 109.7.5, Force Account Work.

109.4 Differing Site Conditions

109.4.1 Definition

This Subsection is amended by the addition of the following:

Paragraph (A) is the definition of Differing Site Conditions. Paragraphs (B), (C) and (D) are not all required along with Paragraph (A) to prove Differing Site Conditions. However, they will be considered by the Maine Turnpike Authority as part of the evaluation of Differing Site Conditions. See related Subsection 102.3, Examination of Documents, Site, and Other Information.

109.4.4 Investigation / Adjustment

This Subsection is amended as follows:

In the third sentence, delete the words "Subsections (A) - (E)".

109.5.1 Definitions - Types of Delays

This Subsection is amended as follows:

B. Compensable Delay -

Replace (1) with the following:

1(A) a weather related Uncontrollable Event of such an unusually severe nature that a Federal Emergency Disaster is declared. The Contractor will only be entitled to an Equitable Adjustment if the Project falls within the geographic boundaries prescribed under the disaster declaration.

1(B) a weather related Uncontrollable Event of such an unusually severe nature that the Contractor's critical path schedule is disrupted.

109.5.2 Entitlement to Adjustments

This Subsection is amended as follows:

A. Types of Adjustments -

Paragraph 2. is deleted and replaced with the following:

2. If a Compensable Delay 1(A), (2), or (3), the Contractor is entitled to an extension of time and an equitable adjustment as set forth in Subsection 109.7, Equitable Adjustment to Compensation. If a Compensable Delay 1(B), the Contractor is entitled to an extension of time and an equitable adjustment as set forth in Subsection 109.7, Equitable Adjustment to Compensation, except that Cost of extended jobsite overhead and time will not be allowed.

109.5.5 Documenting the Delay and Request for Adjustments

The last paragraph is deleted and replaced with the following:

The Authority may require that all cost shown in the report be certified by an accountant.

109.5.6 Decision by Program Manager

This Subsection is deleted and not replaced.

Refer to related Subsection 104.4.2, Preconstruction Conference.

109.5.7 Additional Consideration by Department

This Subsection is deleted and not replaced.

Refer to related Subsection 104.4.2, Preconstruction Conference.

109.6.1 Overview - General Requirements

This Subsection is amended by the addition of the following:

The Maine Turnpike will not participate in any costs borne by the Contractor that are not in accordance with Maine Turnpike policies. All money paid to a business or resident as compensation for impacts created by the Contractor's operation will not be reimbursed by the Authority. All Contractor costs must be documented. Monies paid by the Contractor to others must be documented by a receipt for the cost to be considered as part of the VECP. Copies of all receipts shall be submitted to the Resident.

109.7.2 Basis of Payment

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

Equitable Adjustments will be established by mutual Agreement for compensable items listed in Subsection 109.7.3, Compensable Items, based upon Unit or Lump Sum Prices. If Agreement cannot be reached, the Contractor shall accept payment on a Force Account basis as provided in Subsection 109.7.5, Force Account Work, as full and complete compensation for all Work relating to the Equitable Adjustment.

109.7.3 Compensable Items

This Subsection is deleted and replaced with the following:

The Contractor is entitled to compensation for the following items, with respect to agreed upon Unit or Lump Sum Prices:

1. Labor expenses for non-salaried workers and salaried foremen.

2. Costs for Materials.

3. A markup on the totals of Items 1 and 2 of this Subsection (109.7.3) for home office overhead and profit of the Contractor, its Subcontractors and suppliers, and any lower tier Subcontractors or suppliers, with no mark-ups on mark-ups.

4. Cost for Equipment, based on Blue Book Rates or leased rates, as set forth in Subsection 109.7.5(C), or the Contractor's Actual Costs.

5. Costs for extended jobsite overhead.

6. Time.

7. Subcontractor quoted Work, as set forth below in Subsection 109.7.5, Force Account Work.

109.7.5 Force Account Work

This Subsection is amended by the addition of the following:

C. Equipment

When the Contractor is paid for furnishing and operating equipment on an hourly or daily basis, it shall be operated as approved by the Resident in such a manner as to obtain maximum production under the prevailing conditions. The Resident may order the removal and require replacement of any unsatisfactory equipment.

The first sentence of the second paragraph, which begins: "Equipment leased...", is deleted.

The second sentence of the sixth paragraph is changed from "The Contractor may furnish..." to read "If requested by the Authority, the Contractor will produce cost data to assist the Authority in the establishment of such rental rate, including all records that are relevant to the Actual Costs including rental Receipts, acquisition costs, financing documents, lease Agreements, and maintenance and operational cost records."

The following sentence is added:

Equipment leased by the Contractor for Force Account Work and actually used on the Project will be paid for at the actual invoice amount plus 10 percent markup for administrative costs.

The following sentence is added:

F. Subcontractor Quoted Work - When accomplishing Force Account Work that utilizes Subcontractor quoted Work, the Contractor will be allowed a maximum markup of five percent for profit and overhead.

SECTION 110 - INDEMNIFICATIONS, BONDING AND INSURANCE

110.2.1 Bonds

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

The Bidder to whom the Contract is awarded shall furnish a Surety Corporation Bond, satisfactory to the Authority, on the form of the Contract Bond bound herewith, as security for the faithful performance of the Work. The Contract Bond must be executed or countersigned on the part of such Surety by the Resident Agent of the Surety for the State of Maine.

The Bond shall be in an amount not less than the Total Amount bid in the Proposal and shall be maintained by the Contractor until the final payment under the Contract is made. In the event of insolvency

of the Surety, the Contractor shall forthwith furnish and maintain as above provided, other security satisfactory to the Authority.

If the Contractor is unable to continue the Work, then the completion of the Contract shall be the sole responsibility of the Surety. The Surety shall assume the role of and become the Contractor. Work shall not commence until the Authority has approved, in writing, the Subcontractor's employed by the Surety. All Work to complete the Contract will be paid for at Contract bid prices as shown on the Proposal bid sheets. All payments made by the Authority will be paid directly to the Surety who in turn will then pay the Subcontractors and suppliers. Regardless of the amounts previously paid to the Contractor as Progress Estimates for Work reported to have been put in place by the Contractor or his Subcontractors, the full Scope of the Contract Work shall be completed by the Surety and its designates for compensation not to exceed the Contract Price less the aggregate of prior payments to the Contractor.

110.2.3 Bonding for Landscape Subcontractors

This Subsection is deleted and replaced with the following:

110.2.3 Bonding for Landscape Establishment Period

The Contractor shall provide a signed, valid, and enforceable Performance, Warranty, or Maintenance Bond complying with the Contract, to the Department at Final Acceptance.

The Bond shall be in the full amount for all Pay Items for Work pursuant to Section 621, Landscape, made payable to the Maine Turnpike Authority.

The Contractor shall pay all premiums and take all other actions necessary to keep said Bond in effect for the duration of the Landscape Establishment Period as described in Special Provision 621.0036, Establishment Period. If the Surety becomes financially insolvent, ceases to be licensed or approved to do business in the State of Maine, or stops operating in the United States, the Contractor shall file new Bonds complying with this Subsection and within 10 days of the date the Contractor is notified or becomes aware of such change.

All Bonds shall be procured from a company organized and operating in the United States, licensed or approved to do business in the State of Maine by the State of Maine Department of Business Regulation, Bureau of Insurance, and listed on the latest Federal Department of the Treasury listing for "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies."

By issuing a Bond, the Surety agrees to be bound by all terms of the Contract, including those related to payment, time for performance, quality, warranties, and the Department's self help remedy as provided in Subsection 112.1, Default, to the same extent as if all terms of the Contract are contained in the Bond(s).

Regarding claims related to any obligations covered by the bond, the Surety shall provide, within 60 Days of Receipt of written notice thereof, full payment of the entire claim or written notice of all bases upon which it is denying or contesting payment. Failure of the Surety to provide such notice within the 60-day period constitutes the Surety's waiver of any right to deny or contest payment and the Surety's acknowledgment that the claim is valid and undisputed.

110.3 Insurance

This Subsection is amended by the addition of the following:

Each policy shall be signed by the President and Secretary of the insurance company and shall be countersigned by a licensed Resident Agent of the State of Maine as an authorized representative of the company.

Before Work is commenced pursuant to the Agreement, the Contractor shall file with the Authority a Certificate of Insurance, executed by an insurance company or companies satisfactory to the Authority and licensed or approved by the State of Maine Department of Business Regulation, Bureau of Insurance to do business in the State of Maine, stating that the Contractor carries insurance in accordance with the requirements of the Contract.

If at any time, any of the said policies shall be or become unsatisfactory to the Authority, the Contractor shall promptly obtain new and satisfactory policies and furnish certificates therefor as required above. All policies shall contain a valid provision or endorsement providing that the insurance company will notify the Authority in writing at least thirty (30) days prior to the termination of any policy or before any changes are made in any policies. The policy shall also indicate which exclusions have been deleted and any additional coverages.

Neither approval by the Authority, nor a failure to disapprove insurance furnished by a Contractor, shall release the Contractor of full responsibility for liability, damages and accidents as set forth herein.

No separate payment shall be made for any insurance that the Contractor may be required to carry, but all costs thereof shall be included in the prices bid for the various items scheduled in the Proposal.

The following Subsection is added:

110.3.05 Umbrella Liability

An Umbrella Liability Policy in excess of Employer's Liability, General Liability, and Automobile Liability shall be provided with a limit of $4,000,000.

110.3.2 Commercial General Liability

This Subsection is amended by the addition of the following:

Where the Work to be performed has to do with railroads, then railroad Protective Liability Insurance shall be provided, with the Maine Turnpike Authority as a named insured.

The Contractual Liability Insurance shall cover the Contractor's obligation to indemnify the Authority as provided in Subsection 110.1, Indemnification.

110.3.4 Professional Liability

The first sentence is deleted and replaced with the following:

Contractors who engage in design Work, preliminary engineering Work, and environmental consulting Work for the Authority shall maintain a Professional Liability policy for errors and omissions with a minimum limit of liability of $5,000,000. The Authority reserves the right to require increased insurance limits for certain major Projects.

110.3.5 Owner's and Contractor's Protective Liability

This Subsection is deleted and replaced with the following:

For Projects with a Contract price in excess of $500,000, an "Owner's Protective" policy in the name of the Maine Turnpike Authority, with a $5,000,000 limit, shall also be provided.

110.3.6 Builder's Risk Insurance

This Subsection is amended by the addition of the following:

The Contractor shall provide Builder's Risk Insurance if the Project requires it. This determination will be made by the Authority and shall be so stated in the Special Provisions. The insurance coverage shall be shown on a special form and provide for transient and off-premise coverage and materials intended for use at the Project site. Any exclusion related to design, materials, or workmanship shall not apply to resulting damage.

110.3.8 Administrative and General Provisions

A. Additional Insured

This paragraph is deleted and replaced with the following:

Each policy, with the exception of Workers' Compensation and Professional Liability Insurance, shall name the Authority as an additional named insured. The Maine Turnpike Authority Contract Number shall be clearly stated on each policy.

SECTION 111 - RESOLUTION OF DISPUTES

111.1.2 Escalation Process

This Subsection is deleted and replaced with the following:

To resolve Issues and Disputes, the Contractor and the Maine Turnpike Authority will develop a Decision Matrix at the preconstruction or partnering meeting. See related Subsection 104.4.2, Preconstruction Conference. If an issue is not resolved, the matter becomes a Dispute and is eligible for settlement by an Alternate Dispute Resolution (ADR) process as outlined in this Section. Either the Authority or the Contractor may request an ADR process. If a Contractor is dissatisfied with an ADR recommendation, the decision may be appealed to the MTA Executive Director. A decision by the MTA Executive Director may be appealed to either Mediation or Arbitration. All costs of ADR, including Neutral Evaluations, Dispute Review Boards (DRBs), Mediation or Arbitration shall be shared equally.

ALTERNATIVE DISPUTE RESOLUTION

Preliminary ADR:

The purpose of the optional use of ADR is to assist the consenting parties to resolve disputes in a manner that complies with the Contract, that is fair, impartial, less expensive, faster and less formal than litigation. A Project issue becomes a Dispute eligible for ADR only when mutually acceptable resolution can not be achieved within the Decision Matrix-prescribed time period at the level of the Authority's Chief Operating Officer (COO), and the Contractor's Principal.

The Contractor and the Authority shall select a mutually acceptable form of Preliminary ADR from the following options, with the preference expressed in the order of listing.

1. NEUTRAL EVALUATION: Jointly selected by the disputing parties, the Neutral would conduct a third party, neutral investigation of both sides of the dispute, resulting in the submission of a Report of Recommended Settlement to the disputing parties.

2. DISPUTE REVIEW BOARD (DRB): The parties would jointly select two to three mutually acceptable experts who would hear and weigh a presentation of positions and evidence by the parties; resulting in the issuance by the DRB of a Recommended Settlement of the matter.

Recommendations by either a Neutral or a DRB will be non-binding unless the parties mutually agree in writing at the time of process selection that such recommendations will be binding.

Appeal to the Executive Director:

If either party rejects a recommendation resulting from ADR, the Dispute may be appealed to the Executive Director of the Authority. Once a dispute has been submitted to ADR, no party shall discuss the elements of the dispute with the Executive Director.

Final ADR - Mediation or Arbitration:

At the request of the Contractor, appeal decisions rendered by the Executive Director may be appealed by the Contractor to a Final ADR process of either Mediation or Arbitration. The costs of Mediation or Arbitration shall be borne equally by the Contractor and the Authority. Decisions by either a Mediator or an Arbitrator(s) will be non-binding unless the parties mutually agree in writing at the time of process selection that such recommendations will be binding.

NOTE: It is the intent of this Specification to retain maximum flexibility for the specific procedures for either Preliminary or Final Alternative Dispute Resolution. The processes shall follow the guidelines of construction industry ADR practices in general. The Authority and the Contractor will contribute equal input to the selection of location, methods, experts and timing of such processes. When a Dispute Review Board is utilized, the Authority and the Contractor shall have equal veto power in the selection of DRB composition.

111.1.8 Commissioner Communications Before Appeal

This Subsection is deleted and not replaced.

111.2 Project Level Negotiation to 111.6 Judicial Review

These Subsections (inclusive) are deleted and not replaced.

SECTION 112 - DEFAULT AND TERMINATION

112.2 Termination

This Subsection is amended by the addition of the following:

When the Contract is terminated, the Contractor shall, if so required by the Authority, promptly remove any or all of his/her equipment and supplies from the Project site or from other property of the

Authority, failing which the Authority may remove such equipment and supplies at the expense of the Contractor.

SECTION 203 - EXCAVATION AND EMBANKMENT

203.01 Description

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

Unclassified bids are submitted at the sole risk of the Bidder. The Contractor shall only be entitled to compensation at the unit prices submitted for the actual quantity of Common Excavation and Rock Excavation. No additional compensation shall be considered for changes from the estimated quantities to the actual quantities regardless of the reason for the change.

203.18 Method of Measurement

The seventh paragraph is amended as follows:

Elevations for final cross sections shall be determined as shown and calculated on the Plans. Measurements shall be determined at the bottom of loam line unless otherwise noted.

SECTION 502 - STRUCTURAL CONCRETE

502.10 Forms and False Work

D. Removal of Forms and False Work

The first paragraph is amended as follows:

In the first, second, and third sentences, "forms and false work" are replaced with "forms".

502.11 Placing Concrete

G. Concrete Wearing Surface and Structural Slabs on Precast Superstructures

The last paragraph is amended as follows:

In the third sentence, replace "The temperature of the concrete shall not exceed 24°C [75°F] at the time of placement." with "The temperature of the concrete shall not exceed 24°C [75°F] at the time the concrete is placed in its final position."

502.15 Curing Concrete

The first paragraph is amended as follows:

The first sentence is replaced with: "All concrete surfaces shall be kept wet with clean, fresh water for a curing period of at least seven (7) days after concrete placing, with the exception of vertical surfaces as provided for in Subsection 502.10 (D), Removal of Forms and False Work.

The second paragraph is amended as follows:

The first two sentences are deleted.

The third paragraph is amended as follows:

The entire paragraph, which starts "When the ambient temperature....", is deleted.

The fourth paragraph is amended as follows:

Delete "approved" to now read "...continuously wet for the entire curing period…".

The fifth paragraph is amended as follows:

The second sentence is changed from "...as soon as it is possible to do so without damaging the concrete surface." to: "...as soon as possible."

The seventh paragraph is amended as follows:

The first sentence is changed from "...until the end of the curing period." to "...until the end of the curing period, except as provided for in Subsection 502.10(D), Removal of Forms and False Work."

SECTION 503 - REINFORCING STEEL

503.06 Placing and Fastening

The second paragraph is amended as follows:

The third sentence is changed from "All tack welding shall be done in accordance with Section 504, Structural Steel." to "All tack welding shall be done in accordance with AWS D1.4, Structural Welding Code - Reinforcing Steel."

SECTION 504 - STRUCTURAL STEEL

504.09 Facilities for Inspection

The following is added to the last paragraph:

Failure to comply with the above requirements will be consider to be a denial to allow access to Work by the Contractor. The Department will reject any Work done when access for inspection is denied.

504.18 Plates for Fabricated Members

The second paragraph is amended as follows:

The first sentence is changed from "…ASTM A 898/A 898 M..." to "...ASTM A 898/A 898 M or ASTM A 435/A 435 M as applicable and...".

504.31 Shop Assembly

The following is added to the last sentence:

The minimum assembly length shall include bearing centerlines of at least two substructure units.

SECTION 535 - PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

535.02 Materials

"Steel Strand for Concrete Reinforcement" is changed to "Steel Strand."

The following is added to the beginning of the third paragraph:

Concrete shall be Class P conforming to the requirements in this Subsection. Twenty-eight day compressive strength shall be as stated on the Plans. Coarse aggregate...

535.05 Inspection Facilities

The following is added to the last paragraph:

Failure to comply with the above requirements will be considered to be a denial to allow access to Work by the Contractor. The Department will reject any Work done when access for inspection is denied.

535.26 Lateral Post-Tensioning

The first paragraph is replaced with the following:

Overstressing strands for setting losses cannot be accomplished for chuck to chuck lengths of 7.6 m [25 feet] and less. In such instances, refer to the Plans for all materials and methods. Otherwise, post-tensioning shall be in accordance with PCI standards and shall provide the anchorage force as noted in the Plans. The applied jacking force shall be no less than 100 percent of the design jacking force.

SECTION 603 - PIPE CULVERTS AND STORM DRAINS

603.0311 Corrugated Polyethylene Pipe for Option III

Minimum Mandrel Diameter Table is replaced with the following:

Nominal Size US Customary (in)	Minimum Mandrel Diameter (in)	Nominal Size Metric (nun)	Minimum Mandrel Diameter (mm)
12	11.23	300	280.73
15	14.04	375	350.91
18	16.84	450	421.09
24	22.46	600	561.45
30	28.07	750	701.81
36	33.69	900	842.18
42	39.30	1050	982.54
48	44.92	1200	1122.90

SECTION 604 - MANHOLES, INLETS, AND CATCH BASINS

604.02 Materials

The following are added:

Tops and Traps 712.07

Corrugated Metal Units	712.08
Catch Basin and Manhole Steps	712.09

SECTION 605 - UNDERDRAINS

605.05 Underdrain Outlets

The first paragraph is amended as follows:

In the second sentence, the words "metal pipe" are deleted.

SECTION 606 - GUARDRAIL

606.02 Materials

The fourth paragraph, which reads "Retroreflective beam guardrail delineators..." is deleted and replaced with the following:

Reflectorized sheeting for Guardrail Delineators shall meet the requirements of Subsection 719.01, Reflective Sheeting. Delineators shall be fabricated from high-impact, ultraviolet and weather resistant thermoplastic.

The eighth paragraph, which reads "The sole patented supplier of multiple mailbox..." is deleted and replaced with the following:

Acceptable multiple mailbox assemblies shall be listed on the Department's Approved Products List and shall be NCHRP 350 tested and approved.

606.09 Basis of Payment

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

Butterfly-type guardrail reflectorized delineators shall be mounted on all W-beam guardrail at an interval of every 10 posts [62.5 feet] on tangents sections and every five posts [31.25 feet] on curved sections as directed by the Resident. On divided highways, the delineators shall be yellow on the left hand side and silver/white on the right hand side. On two-way roadways, the delineators shall be silver/white on the right hand side. All delineators shall have retroreflective sheeting applied to only the traffic facing side. Reflectorized guardrail delineators will not be paid for directly, but will be incidental to the guardrail items.

SECTION 615 - LOAM

615.02 Materials

This Subsection is amended as follows:

One hundred percent of the loam material must pass the two inch sieve.

Organic Content	Percent by Volume
Humus	"5% - 10%", as determined by Ignition Test

SECTION 618 - SEEDING

618.01 Description

The first sentence is amended to read:

This Work shall consist of furnishing and applying seed.

The words “and cellulose fiber mulch” are deleted from 618.01(a).

618.03 Rates of Application

The last sentence in 618.03(a) is deleted and replaced with the following:

These rates shall apply to Seeding Method 2, 3, and Crown Vetch.

In 618.03(c), "1.8 kg [4 lb]/unit." is deleted and replaced with "1.95 kg [4 lb]/unit."

618.09 Construction Method

In 618.09(a) 1, sentence two, "100 mm [four inches]" is replaced with "25 mm [one inch] (Method 1 areas) and 50 mm [two inches] (Method 2 areas)".

618.15 Temporary Seeding

The Pay Unit is changed from “Unit” to “Kg [lb]”.

SECTION 620 - GEOTEXTILES

620.03 Placement

Section (c): Replace "Non-woven" in title with "Erosion Control".

The word "Non-woven” in the first paragraph is replaced with "Woven monofilament”.

The word "Non-woven" in the second paragraph is replaced with "Erosion Control".

620.07 Shipment, Storage, Protection and Repair of Fabric

Section (a): the second sentence is replaced with the following:

Damaged geotextiles, as identified by the Resident, shall be repaired immediately.

620.09 Basis of Payment

Pay Item 620.58: "Non-woven" is replaced with "Erosion Control".

Pay Item 620.59: "Non-woven" is replaced with "Erosion Control".

SECTION 621 - LANDSCAPING

621.0036 Establishment Period

In the fourth and fifth paragraphs, "time of Final Acceptance" is replaced with "end of the period of establishment".

In the seventh paragraph, "Final Acceptance date" is replaced with “end of the period of establishment”; and "date of Final Acceptance" is replaced with "end of the period of establishment".

SECTION 626 - HIGHWAY SIGNING

626.034 Concrete Foundations

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

Pre-cast and cast-in-place foundations shall be warranted against leaning and corrosion for two years after the Project is complete. If the lean is greater than two degrees from normal or the foundation is spalling within the first two years, the Contractor shall replace the foundation at his own cost.

SECTION 639 - ENGINEERING FACILITIES

639.04 Field Offices

This Subsection is amended by the addition of the following:

The Field Office location shall be approved by the Resident and shall be provided when the Contract starts and shall remain until the Contract is complete. The Contractor shall be responsible for furnishing and maintaining electricity, heat, facsimile machine and appliances for the entire duration of the Contract, which includes periods of time which Work has been suspended.

The Contractor shall provide a plain paper (8-1/2” x 11”) fax/copier machine with a 10 page (minimum) auto document feeder, 15 page (minimum) fax memory, 50 sheet (minimum) paper capacity, and a transmission speed of six pages (minimum) per minute for the Resident's use during the Project. All maintenance and supplies shall be the responsibility of the Contractor. The fax machine shall be connected to a separate telephone line so that the fax machine operates independent of the telephone and answering machine. A total of three phone lines shall be provided by the Contractor. All of the costs associated with the above shall be the responsibility of the Contractor except for the monthly telephone charges.

The following are not required:

- Accessible route conforming to the Americans with Disabilities Act
- Wheelchair accessible toilet

639.09 Telephone

This Subsection is amended as follows:

The Contractor shall be reimbursed at cost for the monthly telephone service charges. Telephone service shall remain throughout the Contract including periods of seasonal shutdowns.

639.11 Basis of Payment

The following is added after the first paragraph:

The Contractor shall be reimbursed at cost for the monthly telephone service charges. No additional markup will be allowed. The Contractor shall submit copies of the monthly bills to the Resident for payment.

SECTION 652 - MAINTENANCE OF TRAFFIC

652.2 Materials

The first sentence in the second paragraph is replaced with the following:

All construction signs shall be fabricated with super high intensity (ASTM 4956 – Type VII) retroreflective sheeting. All construction signs and construction sign packages shall have the Type VII sheeting material. 3924 Diamond Grade fluorescent orange sheeting manufactured by 3M conforms to ASTM 4956 – Type VII.

652.2.4 Other Devices

The eighth paragraph is amended by the addition of the following:

The Portable Message Signs shall be capable of being programmed remotely by telephone, of monitoring the speed of traffic in a travel lane, and of displaying a message in response to a vehicle exceeding an allowable speed threshold. The Contractor shall submit a catalog cut to the Resident for approval, establish a cellular account so that signs may be programmed remotely and provide training for the operation of the sign to the Resident.

The portable-changeable message signs may be moved throughout the Project area as required to provide advance warning of construction operations which may impact the flow of traffic as well used during lane closures to display messages relative to the speed of traffic. The Contractor shall remove, transport and maintain the signs as directed and approved by the Resident.

The Authority will be responsible for the actual programming of the signs.

A deduction will be made from money due the Contractor for signs that fail to operate for extended periods of time.

The following Subsection is added:

652.2.5 Safety Vests

All jobsite personnel shall wear a safety vest labeled as ANSI 107-199 standard performance for Class 2 risk exposure or an equivalent.

652.3.1 Responsibility of the Department

The first paragraph is deleted and replaced with the following:

The Authority will provide Project specific traffic control requirements and traffic control plans for use by the Contractor. The specific traffic control requirements for the Project are identified in Special Provision Section 652, Maintenance of Traffic (Specific Project Maintenance of Traffic Requirements). No

revisions to these requirements or Plans will be permitted unless the Contractor can thoroughly demonstrate an overall benefit to the public and a Contract Modification is approved.

The following sentence is added to the end of this Subsection:

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

652.3.2 Responsibility of the Contractor

The first paragraph is amended as follows:

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

The following paragraph is added:

The Contractor shall designate a supervisor to be responsible for the safe placement and maintenance of all traffic control devices. This individual shall be trained to safely install and maintain the devices. The Contractor shall submit to the Resident, in writing, documentation stating that this individual has reviewed and understands the traffic control requirements of the Contract and the Manual of Uniform Traffic Control Devices.

652.3.3 Submittal of Traffic Control Plan

This Subsection is deleted and not replaced.

652.3.4 General

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

Prior to starting any Work on any part of the Project adjacent to or being used by the traveling public, the Contractor shall install the appropriate traffic control devices in accordance with the Plans, Specifications and the latest edition of the Manual of Uniform Traffic Control Devices, Part VI. The Contractor shall continuously maintain the traffic control devices in their proper position, and they shall be kept clean, legible and in good repair throughout the duration of the Work. The Contractor shall correct all problems or violations upon observation by the Contractor or upon notification by the Resident. Failure to correct a problem within one hour of notification during non-working hours or to respond immediately to a problem during Work hours, shall result in a penalty of $150.00 per occurrence. The Resident shall be the sole judge as to the time and response.

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

Vehicles parked on the shoulder shall be located so all portions of the vehicle(s) are a minimum of one foot from the traveled way. No operation (including loading or unloading vehicles) shall be conducted

on or near the traveled lanes or shoulders without first setting up the proper lane closure and traffic control devices. These precautions shall be maintained at all times while this Work is being performed.

The Contractor shall keep all paved areas of the highway as clear as possible at all times. No materials shall be stored on any paved area of the highway or within 30 feet of the traveled way (unless protected by concrete barriers and specifically approved by the Resident). Private vehicles owned by Contractor's employees shall be parked close together in a group no closer than 30 feet from the traveled way in pre-approved areas.

Channelization devices shall include Vertical Panel Markers, Barricades, Cones, and Cones and Drums. These devices shall be installed and maintained at the spacing shown on the Traffic Control Plans, or determined by the MUTCD, through the Work area.

No lane closures will be allowed during non-working hours, weekends and/or holiday periods unless included in the Contract as long-term traffic control requirement or approved by the Resident.

Any special signs, barricades or other devices deemed necessary by the Resident shall be furnished and maintained by the Contractor. Extra care shall be taken so that the traffic flow will not be disturbed. The use of construction signs and warning devices not shown on the Plans or in the MUTCD, unless approved by the Resident, will be prohibited.

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

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

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

The following Subsection is added:

652.3.41 Local Road General Requirements

Channelization devices consisting of barricades or drums, at a maximum spacing of 50 feet, shall be used in guardrail areas when neither the existing nor the new guardrail is in place. The Contractor shall not remove guardrail until absolutely necessary for construction operations in that area. The guardrail shall be replaced as soon as possible thereafter.

All excavation areas adjacent to the roadway shall be channelized continuously in both directions for the length of the Project in all areas where the centerline strip is not effective in accordance with the latest edition of MUTCD.

Where the roadway is adjacent to an area being excavated or filled, a minimum two foot shoulder should be maintained and the effective slope of the earth excavation or fill slope, beyond the two foot shoulder, shall not be steeper than 1-1/2 horizontal to 1 vertical. The effective slope of rock excavation shall not be steeper than 1 horizontal to 1 vertical beyond the two foot shoulder. In the case of cuts over five feet deep, an earth berm or other approved barrier shall be placed between the travel lane and the excavated area. In this instance, travel speeds shall be limited by specific advisory signing to 20 miles per hour in all cases. When excavation does not leave sufficient usable widths to maintain two-way traffic as provided in

Subsection 105.4, Maintenance of Work, one-lane traffic controlled by a traffic signal or continuous flagging may be considered. Closely spaced vertical panels, drums or other channelizing devices shall be used on any of these types of areas that are left exposed for short durations.

When paving operations or shoulder grading leave a three inch or less exposed vertical face at the edge of the traveled way, channelization devices shall be placed two feet outside of the pavement at intervals not exceeding 600 feet and a 48 inch by 48 inch W8-9 "Low Shoulder" sign shall be placed at a maximum spacing of 1/2 mile. When paving operations or shoulder grading leave a three inch or grater exposed vertical face at the edge of the traveled way, the Contractor shall place shoulder material for a width of at least four feet to meet the pavement grade, and place channelizing devices as above, before the lane is opened to traffic.

652.3.5 Installation of Traffic Control Devices

The first paragraph is deleted and replaced with the following:

Portable signs shall be erected on temporary sign supports approved crashworthy devices in conformance with NCHRP 350 requirements so that the bottom is either 1) 300 mm [12 inches]; or 2) greater than 1.5 m [five feet] above the traveled way. Post-mounted signs shall be erected so the bottom is no less than 1500 mm [five feet] above the traveled way, and 2100 mm [seven feet] above the traveled way in business, commercial, and residential areas. All post-mounted signs on the turnpike mainline shall be erected so the bottom is no less than 2100 mm [seven feet] above the traveled way. Post-mounted signs must also be erected so that the sign face is in a true vertical position. All signs shall be mounted within four feet of the existing edge of pavement. All signs shall be placed so that they are not obstructed in any manner and immediately modified to ensure proper visibility if obstructed. Due to Contractor or Project staging, it may be necessary to relocate previously erected portable or post-mount signs so they are clearly visible. Signs may be mounted lower or higher to fit the situation when authorized by the Resident. Cones shall either be weighted or nailed. Tires will not be allowed as weights.

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

NHCRP 350 tested drums with tire sidewall ballasts are acceptable. During winter periods, drums shall be placed on the grass shoulder or removed from the roadway so winter maintenance operations will not be impacted. This requires the placement of drums behind the median guardrail. Drums shall not be placed on snow banks.

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

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

The sixth paragraph is deleted and replaced with the following:

The Contractor shall replace damaged or missing traffic control devices with similar devices of acceptable quality.

The following paragraph is added to the end of this Subsection:

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

652.3.6 Traffic Control

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

The minimum roadway width for local road one-way and two-way traffic, and minimum number of lanes and lane widths for the Maine Turnpike, are identified on the Project's traffic control plans and/or in Special Provision Section 652, Maintenance of Traffic (Specific Project Maintenance of Traffic).

The last sentence of the third paragraph is deleted and not replaced.

652.41 Traffic Officers

The first paragraph is deleted and replaced with the following:

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

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

652.6 Night Work

The sixth and seventh paragraphs are deleted and not replaced.

The following Subsection is added:

652.61 Construction Vehicles

The Contractor shall furnish approved signs reading "Construction Vehicle - Keep Back" to be used on trucks hauling to the Project. The signs shall be a minimum of 30 inch by 60 inch, Black and Orange, Type VII. The older type "Construction Vehicle - Do Not Follow" may be used until the end of their service life.

All vehicles used on the Project shall be equipped with amber flashing lights, visible from both front and rear, or by means of a single, approved type, revolving, flashing or strobe lights mounted so as to be visible 360 degrees. The vehicle flashing system shall be in continuous operation while the vehicle is on any part of the Project. Dump trucks and utility trucks shall have a strobe light mounted on each side of the vehicle.

652.7 Method of Measurement

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

The per unit measurement for payment of the portable–changeable message sign shall include the establishment and payment of a cellular phone account so that the portable–changeable message sign may be programmed remotely.

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

The number and locations of Flaggers will be determined by the Resident. Flaggers used during the Contract, for the convenience of the Contractor, will not be measured separately for payment, but shall be

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

652.8.2 Other Items

The last paragraph is deleted and replaced with the following:

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

SECTION 653 - POLYSTYRENE PLASTIC INSULATION

653.05 Placing Backfill

In the second sentence, "...shall be not less than 150 mm [six inches] loose measure." is changed to "...shall be not less than 250 mm [10 inches] loose measure."

In the third sentence "...crawler type bulldozer of not more than 390 kg/m^2 [80 lb/ft^2] ground contact pressure..." is changed to "...crawler type bulldozer of not more than 4875 kg/m^2 [2000 lb/ft^2] ground contact pressure..."

653.06 Compaction

In the final sentence "...crawler type bulldozer of not more than 390 kg/m^2 [80 lb/ft^2] ground contact pressure..." is change to "...crawler type bulldozer of not more than 4875 kg/m^2 [2000 lb/ft^2] ground contact pressure..." it]."

SECTION 656 - TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

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

656.01 Description

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

All temporary erosion control devices shall be in place and approved by the Resident prior to any embankment and excavation operations. The Contractor is responsible for repairing and replacing damaged or missing sandbags, haybales, and silt fence material. The Contractor shall maintain these devices in a clean and properly operating condition as described herein.

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 are not shown on the Plans, shall be borne solely by the Contractor. The frequency of inspection of these devices by the Contractor and the Erosion Control Compliance Officer (ECCO) shall be bi-weekly and immediately following a rainfall of greater than 1/2 inch in a 24-hour period.

In areas of ledge or frozen ground only, 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. This material and specific application shall be submitted to the Resident for approval.

656.02 General

Baled hay shall be bales at approximately 350 by 450 by 750 mm [14 by 18 by 30 inch], or an equivalent, securely tied to form a firm bale.

Sandbags shall consist of heavy cloth or woven plastic bags, approximately 0.03 m3 [one cubic foot] capacity, filled with sand or gravel.

Dumped stone shall be a graded mixture of large and small stone with approximately 50 percent of the stones larger than 150 mm [six inch].

Flexible drainage pipe shall consist of collapsible neoprene pipe, a minimum of 12 inches in diameter or equal.

656.03 Silt Fence

(a) Posts

Either hardwood posts or steel posts shall be used.

Hardwood posts shall be straight, at least 450 mm [18 inches] longer than the height of the silt fence and at least 32 mm by 32 mm [1 inch by 1 inch].

Staples shall be of No. 9 wire.

Steel posts shall be at least 450 mm [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 50 mm [2 inches] higher than the height of the silt fence. Horizontal and vertical wires shall be spaced no more than 150 mm [6 inches] apart. The top and bottom wires shall be at least 10 gauge; all other wires at least 12 gauge.

(c) Silt Fence

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 1790 kPa [260 pounds per square inch] with a maximum average sieve opening size of 850 pm to 250 pm [No. 20 to No. 60]. Roll width of the fabric shall be no less than 150 mm [6 inches] wider than the height of the fence, except fabric for boom supported floating silt fence which shall be no less than 600 mm [two feet] wider than the design width.

(d) Flotation Devices

The flotation boom and weighing devices for boom supported floating silt fence shall be sufficient to hold the fence in an approximately vertical position.

656.04 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, sandbags, or both, shall be used in other areas as necessary to inhibit soil erosion.

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.

656.041 Erosion Control Filter Berm

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.

656.05 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.

656.06 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.

656.07 Dumped Stone

Dumped stone shall be placed at designated locations and shaped to the extent necessary to spread the stone over the area and in sufficient depth to prevent soil erosion.

656.08 Silt Fence

The silt fence shall be installed at all environmentally sensitive areas as shown on the Plans or as directed. 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 2.5 m [eight feet] apart when either type of silt fence is used and be driven a minimum of 450 mm [18 inches] 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 of the geotextile fabric shall be entrenched into the ground a minimum depth of 150 mm [six inches] to prevent water from flowing under the fence. The geotextile shall be spliced together only at support posts with a minimum 150 mm [six inches] 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 the 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 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 with 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.

656.081 Boom Supported Floating Silt Fence

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.

656.082 Maintenance

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

656.085 Erosion Control Compliance Officer

The Contractor shall designate an Erosion Control Compliance Officer (ECCO) on this Project who shall accompany the Resident's ECCO in the inspection of all erosion control devices. An inspection log shall be maintained by the Resident and the log shall be signed by the Resident's ECCO and the Contractor's ECCO after each inspection. Failure to comply with the erosion and sedimentation control requirements herein or as directed by the Resident's ECCO 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 Removing and Disposing

When no longer needed, material and devices for temporary erosion control shall be removed or may be left in place and dispersed over an adjacent area, as directed.

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.

When dispersed over adjacent areas, the material shall be scattered to the extent that it causes no unsightly conditions nor creates future maintenance problems. Dumped stone shall be dispersed or covered in such a manner that it will not interfere with future mowing operations.

656.10 Method of Measurement

Baled hay and sandbags will be measured for payment by the number of bales or bags satisfactorily placed. Dumped stone will be measured for payment by the cubic meter [cubic yard] in vehicles.

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

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

Boom supported floating silt fence will be measured by the meter [linear foot] not including anchorages.

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 directed 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 haybales and silt fence will not be measured separately for payment, but shall be incidental to the Erosion Control items.

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

The accepted quantity of temporary berms will be paid for at the Contract unit price per meter [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 done 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

meter [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 meter [linear foot] complete in place. Payment shall be full compensation for furnishing, installing, maintaining, for 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, and removing the erosion control filter berm.

The removal of sediments and debris that accumulate around erosion control devices, when directed by the Resident, will be paid for under the appropriate Contract items.

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.

Payment will be made under:

Pay Item		Pay Unit
656.50	Baled Hay, in place	Each
656.51	Sandbag, in place	Each
656.55	Dumped Stone	Cubic Meter [Cubic Yard]
656.60	Temporary Berms	Meter [Linear Foot]
656.62	Temporary Slope Drains	Meter [Linear Foot]
656.631	375 mm [15 inch] Temporary Silt Fence	Meter [Linear Foot]
656.632	750 mm [30 inch] Temporary Silt Fence	Meter [Linear Foot]
656.64	Boom Supported Floating Silt Fence	Meter [Linear Foot]

SECTION 701 – STRUCTURAL CONCRETE RELATED MATERIALS

701.10 Fly Ash - Chemical Requirements

All references to “ASTM C311’ are changed to “ASTM C114”.

SECTION 703 - AGGREGATES

703.06 Aggregate for Base and Subbase

The first paragraph is deleted and replaced with the following:

The material shall have a minimum degradation value of 15 as determined by Washington State DOT Test Method T113, Method of Test for Determination of Degradation Value (March 2002 version), except that the reported degradation value will be the result of testing a single specimen from that portion of a sample that passes the 12.5 mm [1/2 inch] sieve and is retained on the 2.00 mm [No. 10] sieve, minus any reclaimed asphalt pavement used.

703.22 Underdrain Backfill Material

The first paragraph is amended as follows:

"...for Underdrain Type B..." is changed to "... for Underdrain Type B and C..."

SECTION 706 - NON-METALLIC PIPE

706.06 Corrugated Polyethylene Pipe for Underdrain, Option I and Option II in Culvert Pipe

The first sentence is changed from "...300 mm diameters to 900 mm" to "...300 mm diameters to 1,200 mm".

The last sentence which begins "This pipe and resins..." is deleted in its entirety and replaced with the following:

The manufacturing plants of polyethylene pipe shall be certified by the Eastern States Consortium. Polyethylene pipe shall be accepted based on third party certification by the AASHTO's National Transportation Product Evaluation Program.

SECTION 709 - REINFORCING STEEL AND WELDED STEEL WIRE FABRIC

709.03 Steel Strand

The second paragraph is changed from "...shall be 12mm [1/2 inch] AASHTO M203M/M203 (ASTM A416/A416M)..." to "...shall be 15.24 mm [0.600 inch] diameter AASHTO M203 (ASTM A416)...".

SECTION 712 - MISCELLANEOUS HIGHWAY MATERIALS

The following Subsections are added:

712.07 Tops and Traps

These metal units shall conform to the Plan dimensions and to the following Specification requirements for the designated materials:

Gray iron castings shall conform to the requirements of AASHTO M105, Class 30, unless otherwise designated.

Carbon steel castings shall conform to the requirements of AASHTO M103/M103M. Grade shall be 450-240 [65-35] unless otherwise designated.

Structural steel shall conform to the requirements of AASHTO M183/M183M or ASTM A283/A283M, Grade B or better. Galvanizing, where specified for these units, shall conform to the requirements of AASHTO M 111.

712.08 Corrugated Metal Units

The units shall conform to Plan dimensions and the metal to AASHTO M36/M36M. Bituminous coating, when specified, shall conform to AASHTO M 190 Type A.

712.09 Catch Basin and Manhole Steps

Steps for catch basins and for manholes shall conform to ASTM C478M [ASTM C478], Section 13 for either of the following material:

(a) Aluminum steps-ASTM B221M, [ASTM B21 1] Alloy 6061-T6 or 6005-T5.

(b) Reinforced plastic steps steel reinforcing bar with injection molded plastic coating copolymer polypropylene. Polypropylene shall conform to ASTM D 4101.

712.23 Flashing Lights

Flashing lights shall be power operated or battery operated as specified.

(a) Power operated flashing lights shall consist of housing, adapters, lamps, sockets, reflectors, lens, hoods and other necessary equipment designed to give clearly visible signal indications within an angle of at least 45 degrees and from three to 90 m [10 to 300 feet] under all light and atmospheric conditions.

Two circuit flasher controllers with a two-circuit filter capable of providing alternate flashing operations at the rate of not less than 50 nor more than 60 flashes per minute shall be provided.

The lamps shall be 650 lumens, 120 volt traffic signal lamps with sockets constructed to properly focus and hold the lamp firmly in position.

The housing shall have a rotateable sun visor not less than 175 nun [seven inches] in length designed to shield the lens.

Reflectors shall be of such design that light from a properly focused lamp will reflect the light rays parallel. Reflectors shall have a maximum diameter at the point of contact with the lens of approximately 200 mm [eight inches].

The lens shall consist of a round one-piece convex amber material which, when mounted, shall have a visible diameter of approximately 200 mm [eight inches]. They shall distribute light and not diffuse it. The distribution of the light shall be asymmetrical in a downward direction. The light distribution of the lens shall not be uniform, but shall consist of a small high intensity portion with narrow distribution for long distance throw and a larger low intensity portion with wide distribution for short distance throw. Lenses shall be marked to indicate the top and bottom of the lens.

(b) Battery operated flashing lights shall be self- illuminated by an electric lamp behind the lens. These lights shall also be externally illuminated by reflex reflective elements built into the lens to enable it to be seen by reflex reflection of the light from the headlights of oncoming traffic. The batteries must be entirely enclosed in a case. A locking device must secure the case. The light shall have a flash rate of not less than 50 nor more than 60 flashes per minute from minus 30°C [minus 20°F] to plus 65°C [plus 150°F]. The light shall have an on time of not less than 10 percent of the flash cycle. The light beam projected upon a surface perpendicular to the axis of the light beam shall produce a lighted rectangular projection whose minimum horizontal dimension shall be five degrees each side of the horizontal axis. The effective intensity shall not have an initial value greater than 15.0 candelas or drop below 4.0 candelas during the first 336-hours of continuous flashing. The illuminated lens shall appear to be uniformly

bright over its entire illuminated surface when viewed from any point within an angle of nine degrees each side of the vertical axis and five degrees each side of the horizontal axis. The lens shall not be less than 175 mm [seven inches] in diameter including a reflex reflector ring of 13 mm [1/2 inch] minimum width around the periphery. The lens shall be yellow in color and have a minimum relative luminous transmittance of 0.440 with a luminance of 2854° Kelvin. The lens shall be one-piece construction. The lens material shall be plastic and meet the luminous transmission requirements of this Specification. The case containing the batteries and circuitry shall be constructed of a material capable of withstanding abuse equal to or greater than 1.21 mm thick steel [No. 18 U.S. Standard Gage Steel]. The housing and the lens frame, if of metal shall be properly cleaned, degreased and pretreated to promote adhesion. It shall be given one or more coats of enamel which, when dry shall completely obscure the metal. The enamel coating shall be of such quality that when the coated case is struck a light blow with a sharp tool, the paint will not chip or crack and if scratched with a knife will not powder. The case shall be so constructed and closed as to exclude moisture that would affect the proper operation of light. The case shall have a weep hole to allow the escape of moisture from condensation. Photoelectric controls, if provided, shall keep the light operating whenever the ambient light falls below 215 lx [20 foot candles]. Each light shall be plainly marked as to the manufacturer's name and model number.

If required by the Resident, certification as to conformance to these Specifications shall be furnished based on results of tests made by an independent testing laboratory. All lights are subject to random inspection and testing. All necessary random samples shall be provided to the Resident upon request without cost to the Authority. All such samples shall be returned to the Contractor upon completion of the tests.

712.32 Copper Tubing

Copper tubing and fittings shall conform to the requirements of ASTM B88M Type A [ASTM B88, Type K] or better.

712.33 Non-metallic Pipe, Flexible

Non-metallic pipe and pipe fittings shall be acceptable flexible pipe manufactured from virgin polyethylene polymer suitable for transmitting liquids intended for human or animal consumption.

712.34 Non-metallic Pipe, Rigid

Non-metallic pipe shall be Schedule 40 polyvinylchloride (PVC) that meets the requirement of ASTM D 1785. Fittings shall be of the same material.

712.341 Metallic Pipe

Metallic pipe shall be ANSI, Standard B36. 10, Schedule 40 steel pipe conforming to the requirements of ASTM A53 Types E or S, Grade B. End plates shall be steel conforming to ASTM A36/A36M.

Both the sleeve and end plates shall be hot dip galvanized. Pipe sleeve splices shall be welded splices with full penetration weld before galvanizing.

712.35 Epoxy Resin

Epoxy resin for grouting or sealing shall consist of a mineral filled thixotropic, flexible epoxy

resin having a pot life of approximately one hour at 10°C [50°F]. The grout shall be an approved product suitable for cementing steel dowels into the preformed holes of curb inlets and adjacent curbing. The sealant shall be an approved product, light gray in color and suitable for coating the surface.

712.36 Bituminous Curb

The asphalt cement for bituminous curb shall be of the grade required for the wearing course, or shall be Viscosity Grade AC-20 meeting the current requirements of Subsection 702.01, Asphalt Cement. The aggregate shall conform to the requirements of Subsection 703.07. The coarse aggregate portion retained on the 2.36 mm [No. 8] sieve may be either crushed rock or crushed gravel.

The mineral constituents of the bituminous mixture shall be sized and graded and combined in a composite blend that will produce a stable durable curbing with an acceptable texture. Bituminous material for curb shall meet the requirements of Section 403, Hot Bituminous Pavement.

712.37 Precast Concrete Slab

Portland Cement concrete for precast slabs shall meet the requirements of Section 502, Structural Concrete, Class A.

The slabs shall be precast to the dimension shown on the Plans and cross section and in accordance with the Standard Detail Plans for Concrete Sidewalk Slab. The surface shall be finished with a float finish in accordance with Subsection 502.14(c). Lift devices of sufficient strength to hold the slab while suspended from cables shall be cast into the top or back of the slab.

712.38 Stone Slab

Stone slabs shall be of granite from an acceptable source, hard, durable, predominantly gray in color, free from seams which impair the structural integrity and be of smooth splitting character. Natural color variations characteristic of the deposit will be permitted. Exposed surfaces shall be free from drill holes or indications of drill holes. The granite slabs in any one section of backslope must be all the same finish.

The granite slabs shall be scabble dressed or sawed to an approximately true plane having no projections or depressions over 13 mm [1/2 inch] under a 600 mm [two foot] straightedge or over 25 mm [one inch] under a 1200 mm [four foot] straightedge. The arris at the intersection of the top surface and exposed front face shall be pitched so that the arris line is uniform throughout the length of the installed slabs. The sides shall be square to the exposed face unless the slabs are to be set on a radius or other special condition which requires that the joints be cut to fit, but in any case shall be so finished that when the stones are placed side by side no space more than 20 mm [3/4 inch] shall show in the joint for the full exposed height.

Lift pin holes in all sides will be allowed except on the exposed face.

SECTION 717 - ROADSIDE IMPROVEMENT MATERIAL

717.03 C. Method #3 - Roadside Mixture #3

Seed proportions are amended as follows:

Crown Vetch	25.0%
Perennial Lupine	25.0%

Red Clover	12.5%
Annual Rye	37.5%

717.05 Mulch Binder

The third sentence is amended as follows:

"Paper fiber mulch may be used as a binder at the rate of 2.3 kg/unit [5 lb/unit]."

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

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 December 2002 except for that work which applies to sections of the Maine Department of Transportation Standard Specifications - Revision of December 2002 which are amended by the Maine Turnpike General Provisions and the following modifications, additions and deletions.

General Description of Work

The work consists of bridge repairs at Exit 45 & 46, pavement rehabilitation at Exit 46, snow fence installation, bridge mounted sign installation, and railroad bridge conduit installation. The work also involves pavement markings, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications.

The general limits of work are from Mile 44.0 to Mile 49.01.

The major components of work are listed below:

- Bridge Repairs at Exit 45
- Bridge Repairs at Exit 46
- Pavement Rehabilitation at Exit 46
- Bridge Mounted Sign at Congress Street Bridge
- Pavement Stripping at Exit 44
- Bridge Mounted Conduit at two MCRR Bridges
- Snow Fence Installation at Running Hill Road (MM 45.4); Warren Avenue (MM48.9); and Auburn Street (FS 0.60)

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 – Bridge Repairs, Exit 45 Bridge (MM 44.9), Exit 46 Bridge (MM46.3), Paving Rehabilitation Exit 46 (MM 46.3), and Miscellaneous Turnpike Repairs, MM 44.0 to MM 49.01 and F.S. MM 0.60". 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 General Provisions:

Independence Day 2015 (Fourth of July)	12:01p.m. preceding Thursday to 6:00 p.m. the following Monday

103.4 Notice of Award

The following sentence is added:

The Maine Turnpike Authority Board is scheduled to consider the Contract Award on February 26, 2015.

104.3.8 Wage Rates and Labor Laws

The fourth paragraph under Records on GP Page 7 of 53 has been amended as follows:

A copy of each record must be filed monthly with the Maine Turnpike Authority. This information shall be sent directly to the Maine Turnpike Authority, Director of Engineering and Building Maintenance, Attention: Wage Rate Records, 2360 Congress Street, Portland, ME 04102. The records shall note the Maine Turnpike Contract Number.

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
Wage and Hour Division
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 laborers and workers employed on the below titled project.

Title of Project --------Bridge Repairs Exit 45 & 46, Paving Rehabilitations Exit 46 Contract 2015.03

Location of Project –Westbrook & Portland, Cumberland County

2015 Fair Minimum Wage Rates
Heavy & Bridge Cumberland County

Occupation Title	Minimum Wage	Minimum Benefit	Total	Occupation Title	Minimum Wage	Minimum Benefit	Total
Asphalt Raker	$14.00	$0.00	$14.00	Line Erector - Power/Cable Splicer	$28.50	$8.40	$36.90
Backhoe Loader Operator	$18.00	$2.23	$20.23	Loader Operator - Front-End	$17.50	$3.02	$20.52
Boom Truck (Truck Crane) Operator	$22.50	$0.00	$22.50	Mechanic- Maintenance	$22.78	$3.99	$26.77
Bulldozer Operator	$18.00	$2.77	$20.77	Mechanic- Refrigeration	$22.00	$4.43	$26.43
Carpenter	$22.00	$2.31	$24.31	Millwright	$24.73	$3.42	$28.15
Carpenter - Rough	$18.03	$2.82	$20.85	Painter	$16.00	$0.00	$16.00
Cement Mason/Finisher	$16.81	$0.74	$17.55	Pile Driver Operator	$22.93	$4.29	$27.22
Communication Equip Installer	$23.57	$5.63	$29.20	Pipe/Steam/Sprinkler Fitter	$21.50	$4.30	$25.80
Comm Transmission Erector-Microwave & Cell	$18.00	$2.92	$20.92	Pipelayer	$23.06	$9.55	$32.61
Crane Operator =>15 Tons)	$24.35	$4.12	$28.47	Plumber (Licensed)	$24.00	$3.63	$27.63
Crusher Plant Operator	$18.65	$3.62	$22.27	Plumber Helper/Trainee (Licensed)	$17.88	$2.39	$20.27
Diver	$23.00	$8.25	$31.25	Propane & Natural Gas Servicer & Inst	$24.00	$3.13	$27.13
Driller - Rock	$17.50	$4.86	$22.36	Pump Installer	$22.00	$2.70	$24.70
Earth Auger Operator	$22.50	$10.46	$32.96	Reclaimer Operator	$20.75	$10.84	$31.59
Electrician - Licensed	$28.00	$14.20	$42.20	Rigger	$20.00	$3.18	$23.18
Electrician Helper/Cable Puller (Licensed)	$17.50	$8.16	$25.66	Roller Operator - Earth	$12.50	$4.76	$17.26
Excavator Operator	$20.75	$3.38	$24.13	Roller Operator - Pavement	$18.75	$5.25	$24.00
Fence Setter	$14.00	$0.00	$14.00	Screed/Wheelman	$17.00	$3.42	$20.42
Flagger	$9.00	$0.00	$9.00	Truck Driver - Light	$17.00	$1.46	$18.46
Ironworker - Reinforcing	$20.00	$1.23	$21.23	Truck Driver - Medium	$12.25	$0.93	$13.18
Ironworker - Structural	$23.70	$1.36	$25.06	Truck Driver - Heavy	$16.00	$2.34	$18.34
Laborers (Incl.Helpers & Tenders)	$15.00	$1.04	$16.04	Truck Driver - Tractor Trailer	$20.16	$3.31	$23.47
Laborer - Skilled	$17.05	$2.79	$19.84				

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 with the Secretary of State.

Determination No: HB-007-2015

Filing Date: December 17, 2014

Expiration Date: 12-31-2015

A true copy

Attest: Pamela Megathlin

Pamela Megathlin
Director
Bureau of Labor Standards

BLS 424HB (R2015) (Heavy & Bridge 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
Wage and Hour Division
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 laborers and workers employed on the below titled project.

Title of Project --------Bridge Repairs Exit 45 & 46, Paving Rehabilitations Exit 46 Contract 2015.03

Location of Project –Westbrook & Portland, Cumberland County

2015 Fair Minimum Wage Rates

- Highway & Earthwork Cumberland County

Occupation Title	Minimum Wage	Minimum Benefit	Total	Occupation Title	Minimum Wage	Minimum Benefit	Total
Asphalt Raker	$16.00	$0.48	$16.48	Ironworker - Reinforcing	$20.00	$1.23	$21.23
Backhoe Loader Operator	$19.50	$0.71	$20.21	Ironworker - Structural	$22.65	$6.06	$28.71
Bricklayer	$23.24	$1.80	$25.04	Laborers (Incl.Helpers & Tenders)	$12.50	$0.71	$13.21
Bulldozer Operator	$18.40	$3.11	$21.51	Laborer - Skilled	$15.50	$3.60	$19.10
Carpenter	$19.00	$1.75	$20.75	Line Erector - Power/Cable Splicer	$27.42	$8.05	$35.47
Carpenter - Rough	$24.00	$1.90	$25.90	Loader Operator - Front-End	$17.00	$2.68	$19.68
Cement Mason/Finisher	$16.81	$0.74	$17.55	Mechanic- Maintenance	$18.00	$3.08	$21.08
Concrete Pump Operator	$19.00	$3.35	$22.35	Painter	$16.75	$3.50	$20.25
Crane Operator =>15 Tons]	$24.00	$4.81	$28.81	Paver Operator	$19.88	$1.57	$21.45
Crusher Plant Operator	$18.00	$2.85	$20.85	Pipelayer	$15.16	$1.84	$17.00
Diver	$23.00	$8.25	$31.25	Pump Installer	$22.00	$2.70	$24.70
Driller - Rock	$17.50	$4.86	$22.36	Reclaimer Operator	$20.75	$10.84	$31.59
Earth Auger Operator	$22.50	$8.14	$30.64	Rigger	$20.00	$3.18	$23.18
Electrician - Licensed	$27.77	$13.76	$41.53	Roller Operator - Pavement	$17.00	$1.02	$18.02
Electrician Helper/Cable Puller (Licensed)	$16.39	$3.23	$19.62	Screed/Wheelman	$17.00	$4.32	$21.32
Excavator Operator	$18.38	$2.36	$20.74	Stone Mason	$17.00	$0.00	$17.00
Fence Setter	$11.00	$0.00	$11.00	Truck Driver - Light	$17.00	$1.46	$18.46
Flagger	$9.00	$0.00	$9.00	Truck Driver - Medium	$15.38	$0.48	$15.86
Grader/Scraper Operator	$20.00	$4.90	$24.90	Truck Driver - Heavy	$15.00	$1.70	$16.70
Highway Worker/Guardrail Installer	$16.80	$3.56	$20.36	Truck Driver - Tractor Trailer	$15.00	$0.53	$15.53
Hot Top Plant Operator	$20.75	$10.84	$31.59	Truck Driver - Mixer (Cement)	$14.60	$0.68	$15.28

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

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

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

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 with the Secretary of State.

Determination No: HI-005-2015

Filing Date: December 17, 2014

Expiration Date: 12-31-2015

A true copy

Attest: Pamela Megathlin

Pamela Megathlin
Director
Bureau of Labor Standards

BLS 424HI (R2015) (Highway & Earthwork Cumberland)

104.4.4 Request for Information (RFI)

This Subsection is amended by the addition of the following:

RFI's shall be submitted on company letterhead or on a standard company form with a tracking number. The General Contractor shall maintain a corresponding RFI log.

RFI's may be attached to an e-mail, but shall not be in the form of an e-mail, and at a minimum, must reference the subject Plan or Specification in question.

RFI's with multiple questions may be treated as a submittal and the allowed 21 calendar days for review and response will govern.

104.4.6 Utility Coordination

This Subsection is amended by the addition of the following:

There is no utility relocation work scheduled or anticipated by the utility owners in this contract. The Contractor is responsible for relocating Maine Turnpike site lighting and pre-emptive traffic loops under this contract.

The Contractor shall comply with all OSHA regulations pertaining to work adjacent to underground utilities and utility wires.

The Contractor shall also comply with all Federal DOT and utility owner regulations pertaining to work adjacent to underground utilities which (may) include on-site utility inspection when working within or adjacent to the utility R-O-W(s). The Contractor shall plan and conduct his work accordingly.

The following underground 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:

UNDERGROUND UTILITIES

WATER

Portland Water District
225 Douglass Street
PO Box 3553
Portland, ME 04104-3553

SEWER

Maine Turnpike Authority
2360 Congress Street
Portland, ME 04101
(private line septic field SB on toll plaza)
(private line force main to Skyway Drive NB off toll plaza)

SITE LIGHTING

Maine Turnpike Authority
2360 Congress Street
Portland, ME 04101

PROPANE

Maine Turnpike Authority
2360 Congress Street
Portland, ME 04101

PRE-EMPTIVE TRAFFIC LOOPS
Maine Turnpike Authority
2360 Congress Street
Portland, ME 04101

FIBER OPTICS CABLE
Maine Turnpike Authority
2360 Congress Street
Portland, ME 04101

HIGH PRESSURE OIL PIPELINE
Portland Pipeline Corporation
30 Hill Street
South Portland, ME 04106

HIGH PRESSURE OIL PIPELINE
Buckeye Partners, L.P.
170 Lincoln Street
South Portland, ME 04106

HIGH PRESSURE GAS PIPELINE
Unitil Corporation
6 Liberty Lane West
Hampton, NH 03842-1720

BUCKEYE PARTNERS, LP (BUCKEYE)

BUCKEYE has an oil pipeline crossing under the Maine Turnpike northbound on-ramp at approximately Station 401+00 to 402+00 then running generally parallel to the mainline north to and beyond the project limit.

BUCKEYE does not propose any relocation in order to facilitate the Project. BUCKEYE has certain restrictions that need to be followed when excavating, filling, or compacting near or over their pipeline. BUCKEYE PARTNERS, LP AND AFFILIATES Right-of-Way Use Restrictions Specification, Revision 4 is included as Appendix D. The Contractor shall comply with these requirements.

The Contractor shall notify BUCKEYE two (2) weeks in advance of any work taking place over their oil pipeline outside of the existing pavement limits. Before any construction begins BUCKEYE will determine the exact location of the pipeline, and the Contractor must submit construction plans to BUCKEYE for review. This includes for earthwork, ditching and guardrail. No work shall take place without a BUCKEYE inspector present.

PORTLAND PIPE LINE (PPL)

PPL has an pipeline crossing under the Maine Turnpike northbound on-ramp at approximately Station 401+00 to 402+00 then running generally parallel to the mainline north to and beyond the project limit.

PPL does not propose any relocation in order to facilitate the Project. PPL has certain restrictions that need to be followed when excavating, filling, or compacting near or over their pipeline. The Contractor shall comply with these requirements.

The Contractor shall notify PPL two (2) weeks in advance of any work taking place over their pipeline outside of the existing pavement limits. Before any construction begins PPL will determine the exact location of the pipeline, and the Contractor must submit construction plans to PPL for review. This includes for earthwork, ditching and guardrail.

UNITIL

UNITIL has an pipeline crossing under the Maine Turnpike northbound on-ramp at approximately Station 401+00 to 402+00 then running generally parallel to the mainline north to and beyond the project limit.

UNITIL does not propose any relocation in order to facilitate the Project. UNITIL has certain restrictions that need to be followed when excavating, filling, or compacting near or over their pipeline. The Contractor shall comply with these requirements.

The Contractor shall notify UNITIL two (2) weeks in advance of any work taking place over their pipeline outside of the existing pavement limits. Before any construction begins UNITIL will determine the exact location of the pipeline, and the Contractor must submit construction plans to UNITIL for review. This includes for earthwork, ditching and guardrail. No work shall take place without a UNITIL inspector present.

PORTLAND WATER DISTRICT (PWD)

PWD has a 12 inch ductile iron water main crossing beneath the Turnpike mainline at approximately Station 2303+50 (on the northerly side of Congress Street). This utility is active and the contractor shall coordinate construction activity with the Authority per the Plans.

MAINE TURNPIKE AUTHORITY (AUTHORITY)

Underground electrical and communication conductors, operated by the Maine Turnpike Authority, do exist on site along existing Exit 46 interchange ramps. These utilities are live and the contractor shall coordinate construction activity with the Authority per the Plans. This will involve, as part of this contract, the contractor utilizing existing infrastructure, removing existing infrastructure, and installing new infrastructure.

104.4.7 Cooperation With Other Contractors

This Subsection is amended by the addition of the following:

Numerous Maine Turnpike construction projects are scheduled between Mile 42 and Mile 53 in 2015. They include, but are not necessarily limited to:

- Contract 2014.09 Cash Lane Conversion – Exits 19, 46, and 48;
- Contract 2014.11 Bridge Rehabilitation – Stroudwater River Bridges and MCRR Bridges, construction schedule February 2015 through May 2015;
- Contract 2014.14 Bridge Repairs – Forest Avenue Bridges and Riverside Street Bridges, construction schedule February 2015 through May 2015;
- Contract 2015.01 Pavement Rehabilitation, Guardrail and Clear Zone Improvements MM 51.2 - MM 54.5 and F0.0 - F3.8, construction schedule April 2015 through October 2015;
- Contract 2015.13 Falmouth Spur ORT Toll Conversion F0.0 - F3.8, construction schedule July 2015 through October 2016; and

- Contract # TBD - Installation of Fiber Optics Cable - Interchange 46 to Interchange 48; construction schedule TBD - anticipated in Fall 2015.
- STP-1785(800)X Congress Street & Skyway Drive - 7 Signals PACTS Tier 1 Improvements; construction schedule October 2014 through April 2015.

The above contracts, and any additional contracts tendered by the Authority between Mile 42 and Mile 54.5 and on the Falmouth Spur shall be considered adjacent Contracts

104.4.8 Coordination With Railroads

This Subsection is amended by the addition of the following:

The Maine Central Railroad Bridge at Mile 47.9 and the Maine Central Railroad Bridge at Mile FS 0.5 cross over the Maine Central Railroad (MCRR), owned and operated by Pan Am Railways (also known as Maine Central Railroad Company, Springfield Terminal Railway Company, and Guilford Transportation Industries, Inc.). The MCRR at Mile 47.9 is an active single track serving an unknown number of freight trains per day which do not operate on a set daily schedule.

The MCRR at Mile FS 0.5 is an active single track which serves an unknown number of freight trains per day which do not operate on a set daily schedule, and approximately four Amtrak trains per day which operate on a set daily schedule.

Any work on or affecting Pan Am property or operations requires the presence of a Pan Am Inspector-Flagman. All Pan-Am Inspector-Flagmen shall be scheduled through the Maine Turnpike Authority (MTA). The Contractor shall submit a request to the Resident by noon on the Wednesday prior to the week of proposed work requiring an Inspector-Flagman. The Authority will make payment for the Inspector-Flagmen directly to Pan Am. The Contractor will not be entitled to additional compensation if scheduled work is not completed due to the unavailability of Inspector-Flagmen.

Pan Am shall approve all Contractor activities that may impact Railroad property or operations. Contractor shall direct all submittals through the Authority. Normal approval time for Pan Am is two (2) weeks. The Authority will make payment for Pan Am's review time directly to Pan Am.

Pan Am Railways does not allow track closures.

Pan Am Railways does not allow Contractor vehicles to cross the tracks in these locations.

Contractor work activities must cease to allow passage of trains as directed by the Railroad Inspector-Flagmen.

The Contractor is required to agree to and sign a Standard Railroad Service Contract. A copy of this agreement is included in Appendix C. This signed agreement shall be submitted through the Authority. The Contractor shall be responsible for any non-refundable Railroad service fees.

The Contractor shall abide by all Railroad Specifications, Clearance Envelopes, and all Conditions as noted in Pan Am Railway review letter addressed to HNTB and dated January 19, 2015. A copy of these items is included in Appendix C.

The Contractor is required to carry Railroad Protective Liability Insurance. Refer to Section 8 of the Railroad Specifications in Appendix C.

105.2.4.2 Lead Paint

The Contractor shall note that the existing bridge structure at Exit 45 contains lead based paint. The Contractor shall institute every precaution when working with materials coated with lead based paints.

Lead Paint Removal

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

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

Drilling and Blade-Cutting of Lead Based Paint

The Contractor may drill and/or blade-cut lead based painted steel, without lead based paint removal, provided the Contractor collects and recycles the filings at a licensed metal recycling facility. If the Contractor chooses not to collect and recycle the filings at a licensed metal recycling facility he will be required to abate the area where drilling and/or blade-cutting 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 filings 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 2003)

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

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

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

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

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

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

105.3 Traffic Control and Management

See Special Provision Section 526, Concrete Barrier.

See Special Provision Section 652, Maintenance of Traffic.

105.5.1 General Requirements

Construction Access

The Contractor shall construct a stabilized construction entrance in accordance with the Best Management Practices at all locations where construction vehicles will exit and/or enter existing paved shoulders or travel ways from non-paved areas. The Resident shall approve of the locations. The stabilized construction entrance shall be constructed in conjunction with the clearing activities or other early activities. Additional stabilized construction entrances may be required due to the Contractor's operations as well as site conditions. The construction and maintenance of the stabilized construction entrance including frequent sweeping of the paved surfaces shall be incidental to the Contract.

Onsite Contractor Storage Areas

The Contractor will be allowed to use up to 10 parking spaces in the Exit 46 Park and Ride lot, and up to a 50 x 100 area adjacent to the stored concrete barrier at Crosby Maintenance. All other Contractor storage, if required, shall be off the Turnpike Right-of-Way. The cost of storage off the Turnpike Right-of-Way shall be incidental to the various contract pay items.

105.7.4 Submittal Requirements

The following paragraph is added:

In addition to the hardcopy requirement, the contractor shall also make submittals in PDF electronic file format via email. Submittals shall be accompanied by a cover sheet, which identifies the submittal number, subject date, and any revision numbers associated with the submittal.

105.8.1 Temporary Soil Erosion and Water Pollution Control

This Subsection in the General Provisions is deleted and replaced with the following:

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.

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.

The following Subsections are added:

105.8.1.1 Environmental Standards

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:

105.8.1.1.1 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. Newly disturbed earth shall be mulched or otherwise stabilized by the end of each workday. Mulch shall be maintained on a daily basis.
2. All disturbed ditches shall be stabilized by the end of each workday. Stabilization shall be maintained on a daily basis.
3. 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.
4. 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.
5. Dust control items, other than those under Standard Specification Section 637, Dust Control, if applicable, shall be included in the plan.

105.8.1.1.2 Construction Requirements

1. The Contractor, to the maximum extent practicable, shall install temporary and permanent sedimentation control measures prior to conducting clearing and grubbing operations.
2. The Contractor shall conduct inspections of disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. 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.
3. 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.
4. Temporary erosion control measures shall be maintained until the site is permanently stabilized with vegetation or other permanent control measures.
5. 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.
6. During periods of approved suspension, the Contractor shall inspect and maintain temporary and permanent erosion and sedimentation controls.
7. 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.
8. Disturbance of natural resources beyond the construction limits shown on the Plans is not allowed.
9. 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.

10. 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.
11. 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.
12. All cross culvert outlets shall be armored before the end of the work day.
13. 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.
14. 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.
15. 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.
16. 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.
17. 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.
18. 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.

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 July 15, 2009. Final permit authorization is anticipated by February 10, 2015. An addendum will be issued acknowledging the receipt or denial of the permit; providing the actual MaineDEP permit conditions, and providing Plan and Specification changes if required. A copy of the Section 11 – State Transportation Facilities Permit by Rule regulations are attached in **Appendix B**.

The Project is being permitted under Section 404 of the Clean Water Act, through the US Army Corps of Engineers Programmatic General Permit, Category 1. The Project is subject to the General Conditions of the Category 1 Authorization dated October 12, 2010 through October 12, 2015. A copy of the General Permit is attached in **Appendix B**.

Final permit authorization is anticipated by February 10, 2015. An Addendum 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.

The Contractor shall prepare a LOD plan illustrating the Contractor's proposed limit of earthwork disturbance. The LOD plan shall show all construction access locations, field office locations, material and temporary waste storage locations, as well as include the Contract limits of earthwork disturbance. All applicable erosion and sedimentation control devices needed shall be detailed on the Contractor's LOD plan and are not limited to those devices shown on the Contract LOD plan. **This Plan shall be submitted for review and approval, to the Resident within 14 days of Contract award.** Payment for creating, revising, and completing this plan shall be incidental to Item 659.10, Mobilization.

The LOD for this Contract has been estimated to be **0.62** 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, for a total 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 one acre, the Resident shall first approve of the plan and then submit a MPDES Construction General Permit NOI for MaineDEP approval. The approval will take a minimum of 14 working days.

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

The Contractor shall comply with the conditions outlined in the Army Corps General Permit, Maine Department of Environmental Protection NRPA Permit by Rule, the US Army Corps of Engineers General Permit, and the Maine Pollutant Discharge Elimination System General Permit for stormwater discharge associated with construction activity. The Contractor shall indemnify and hold harmless the Maine Turnpike Authority or its agents, representatives and employees against any and all claims, liabilities or fines arising from or based on the violation of the above noted permits.

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. MS4 Awareness Plan and BMP Adoption Plan are contained in Appendix B. The Contractor is required to review, sign, and comply with these plans.

105.8.3 Wetland and Water Body Impacts – Long Creek Watershed

There are no stream impacts within the project limits.

There is an estimated 0.06 acres of wetland impacts within the project limits; specifically due to lane and embankment widening for the northbound on-ramp. Prior to starting work, the Contractor shall submit for approval a detailed construction plan for these impacts. The plan shall outline the schedule, equipment, and materials the Contractor will utilize to construct the culvert extension in accordance with the Plans. The Resident will review the plan to assure that the Contractor is constructing the widening and culvert extension in accordance with the Contract Documents and permit requirements. The Contractor shall complete the culvert extension in a timely manner.

107.1 Contract Time and Contract Completion Date

This Subsection is amended by the addition of the following:

The Contract start date shall be on or before March 23, 2015 at the discretion of the Authority, and all work shall be completed on or before November 13, 2015. The project shall be substantially complete by October 16, 2015.

All work on the Skyway Drive Bridge and the Exit 46 northbound on ramp shall be complete by July 31, 2015 at 6:00 p.m.

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 sign installations and striping complete at Exit 44 and all lane closures removed.
- All bridge repairs at Exits 45 and 46 are complete, including permanent guardrail and lightweight barrier are in place, traffic shifts are removed, final stripping is in place.
- All paving, striping, signing, and lighting at Exit 46 is complete and all lane closures are removed.
- Conduit installation on both RR bridges and RR coordination complete and all lane and/or shoulder closures removed.

The Interim Substantial Completion date for all work on the Skyway Drive Bridge and the Exit 46 northbound on ramp shall be July 31, 2015 at 6:00 p.m. Supplemental liquidated damages on a calendar day basis in accordance with Subsection 107.8 shall be assessed for each calendar day, or portion thereof, that this Interim Substantial Completion date is not achieved for the Skyway Drive Bridge and the Exit 46 northbound on ramp work.

Interim Substantial Completion for the Skyway Drive Bridge and the Exit 46 northbound on ramp work is defined by the Authority as follows:

- All work on the Skyway Drive bridge is complete, including approach slab repairs, bridge repairs, asphaltic plug joint installation, parapet re-caulking and sealing, and guardrail adjustment; and all Skyway Drive traffic shifts are removed, final striping is in place, and Skyway Drive specific traffic control signing has been removed.
- All work on the Exit 46 northbound on ramp is complete, including the ramp widening, lighting, paving, line striping, parapet re-caulking and sealing, and delineator installation;

and all northbound on ramp traffic control is removed and the northbound on ramp specific traffic control signing has been removed.

Work that may remain after Substantial Completion is limited to sealing of the concrete barrier at Exit 46, installation of the Exit 46 EZ Pass/ Park & Ride signs, installation of delineator posts, removal of maintenance of traffic signs and traffic control devices, contractor yard cleanup and demobilization; excluding any work explicitly specified to be complete under Interim Substantial Completion for the Skyway Drive Bridge and the Exit 46 northbound on ramp definition.

Supplemental Liquidated damages on a calendar day basis in accordance with Subsection 107.7.2 shall be assessed for each calendar day that substantial completion is not achieved. Supplemental Liquidated damages for substantial completion will end when substantial completion is accepted by the Resident. If the work remains incomplete at the Contract Completion Date, liquidated damages on a calendar day basis in accordance with Subsection 107.7.2 shall be assessed for each calendar day that Contract completion is not achieved. If substantial completion is not completed by the Contract Completion date both supplemental liquated damages and liquated damages will be incurred.

107.3.2 Night Work

The Contractor shall be responsible to determine and adhere to the local regulations pertaining to night work time restrictions and noise limitations. The Contractor shall plan his work accordingly.

The following Subsection is added:

107.4.2 Schedule of Work Required

This Subsection is amended by the addition of the following:

The work shall be completed in logical timely increments. The Contractor shall submit a schedule for review that shows large segments of work scheduled for continuous blocks of time. Work in a segment shall be completed over a period of continuous work days. Work shall not be started in an area until the Contractor has scheduled the labor and equipment necessary to complete all work in the segment. The Contractor will not be permitted to “stretch” the Project over the entire Contract period, doing a day or two work per week.

A schedule that shows sporadic work activities through the duration of the Contract will not be approved. Actual work activities that are sporadic will not be allowed.

A 2 week schedule shall be submitted by the Contractor weekly, the first week shall be detailed. The weekly detailed schedule shall show all lane closures that are anticipated for the following week. Lane closures that are not shown on this schedule will only be allowed if they are deemed emergency lane closures by the Resident.

The following Subsection is added:

107.4.6 Prosecution of Work

The following activities must be completed by the date specified:

All work requiring lane closures shall be done in the permitted lane closure windows as outlined in Special Provision 652.

The following Subsection is added:

107.4.7 Limitations of Operations

The construction in each location shall proceed expeditiously. Once operations commence at a location, for every day/night not worked when work is allowed by Contract and weather, the Contractor will be charged a fee in the amount of $1,000 (excluding inclement weather days). The day work shall be allowed Monday through Friday and the night work shall be allowed Sunday through Thursday unless otherwise noted.

Contractor shall coordinate the bridge work, guardrail work, site lighting work, and paving work at all locations to ensure the timely completion of the project.

Traffic shall be maintained on the mainline, all ramps and in the toll plaza areas all times, except when Appendix A expressly permits a mainline lane, a ramp or ramps, and toll plaza areas to be closed. Ramp closures at Exits 45 and 46 shall be coordinated so traffic can enter/ exit at Exit 45 or Exit 46 when the similar ramp at Exit 45 or Exit 46 is closed.

The Contractor will be allowed to work at both interchanges at the same time, subject to the previous paragraph restriction and Appendix A requirements.

The Contractor shall complete the paving operations on one ramp prior to beginning his paving operations on another ramp.

The Contractor will be allowed to work in two or more separate work areas in an interchange provided traffic can safely move through the work areas when the mainline lane, a ramp or ramps, and toll plaza areas are not closed. The work areas are not required to be on the same side of the “road”.

The Contractor will be allowed to mill the entire work area (Exit/ Interchange) prior to beginning the paving operation in the work area provided the milled areas can be surfaced within two weeks. Temporary ramps shall be installed if the milling and paving operation do not occur in the same closure(s). Temporary bituminous ramps, minimum 25’ per 1 ½ inches of pavement elevation change, will be required at all butt joints and bridge joints. The Contractor shall submit his milling and paving schedule for review and acceptance.

The Contractor shall secure all catch basin grates with Sikaflex 1a before being allowed to shift traffic onto the catch basin grates.

Catch basins shall be adjusted to grade after finish paving in overlay sections.

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

Mainline lane shall be as shown on the Traffic Phasing plans or as otherwise approved by the Resident. Mainline lane, ramp, and toll plaza area closure(s) will not be allowed over a weekend or Holidays unless approved otherwise by the Resident.

All work on the Exit 46 ramps on the approach side of the toll plazas (Southbound on and Northbound on), and within 250 feet of the departure side of the toll plaza centerline (Southbound on and Northbound on) shall be undertaken between 7:00 p.m. and 6:30 a.m. Sunday thru Thursday evenings into the following morning.

All work on the Exit 46 ramps on the departure side of the toll plazas (Southbound on and Northbound on), within 500 feet of Skyway Drive (Southbound off and Northbound off) shall be undertaken between 7:00 p.m. and 6:30 a.m. Sunday thru Thursday evenings into the following morning.

All milling and paving work on the Exit 46 ramps, excluding the work listed below, shall be undertaken at night with the respective ramp(s) closed. See Appendix A for permitted Exit 46 ramp closure windows.

Location specific guardrail work, lighting work, median barrier work, shoulder work, northbound on ramp widening work, and southbound off ramp widening work may be undertaken behind drums with the traffic lane shifted away from the work area during non-peak daytime hours provided the work does not interfere with the normal operations of the Exit 46 plazas and ramps, or the safety of the traveling public.

Should the Contractor's activities interfere with the normal operation of the Exit 46 plazas and ramps, or safety of the traveling public, the Authority reserves the right to direct the Contractor to complete the work during the permitted nighttime work windows orramp closure work windows for each ramp. The Contractor shall have no claim for monies or time if the Authority directs the Contractor to complete the work during permitted nighttime work windows or permitted ramp closure windows. See Appendix A for the permitted daytime work windows for each ramp.

Work on both the left and right sides of active traffic lane(s) will not be permitted on the Exit 46 ramps at any time.

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

Wide loads will not be permitted to pass on Skyway Drive, the Exit 46 exiting and entering ramps, and the Exit 45 southbound off and southbound on ramps during the project. Wide loads will be allowed to pass through all other project areas during daylight hours as authorized by the Authority. Wide loads are restricted from moving on the Turnpike one-half hour after sunset until one-half hour before sunrise. Wide loads must be able to safely pass all daytime work areas. See SP 652, Project Specific Maintenance of Traffic for additional information.

All ramps carrying traffic must have either temporary or permanent highway lighting in place and operational at all times at the merge and diverge areas. One portable light tower shall be installed for each group of three permanent highway lights, or portion thereof.

The work shall be timed and phased to allow the roadway, ramps and toll plaza areas to be open to traffic daily per Appendix A.

The Contractor shall place the permanent pavement markings; solid white lane edge (SWEL), solid yellow edge line (SYEL), broken white lane line(s) (BWLL), solid white lane line (SWLL) and dotted white line (DWL), on new pavement at the end of each week unless approved otherwise by the Resident.

The Contractor shall note the Exit 46 Interchange is under the flight path of the Portland Jetport and shall abide by all airport site lighting and flight path height restrictions.

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 ensure that all excavation around catch basin rebuilds is backfilled at the end of each day to the satisfaction of the Resident.

Bridge Repair Work

The Contractor shall provide vertical shielding adjacent to the existing bridge rail system to prevent pavement, membrane, concrete demolition, pavement and other debris from falling onto mainline traffic during pavement removal, concrete demolition and paving activities at the Exit 45 Bridge.

The Contractor shall provide shielding, tarps, rope tie-offs, etc., to prevent any debris from falling onto oncoming traffic during demolition activities for removal of the existing railing at Exit 45 Bridge. Traffic will not be permitted to use the travel way directly under the demolition work and temporary mainline shoulder closures and lane closures shall be used whenever necessary to ensure the safety of the public during demolition. Temporary trooper stoppages may be required to ensure safe rail and rail post removal between piers 2 and 4 if the single lane traffic cannot be shifted at least 6 feet away from the demolition activity. The lightweight steel barrier shall be in its' final position and permanently anchored before the bridge rails and posts can be removed.

Temporary mainline lane closures at Exit 45 Bridge will be permitted as outlined in Special Provision Section 652, Maintenance of Traffic, except during weekend and Holiday period. Temporary lane closures shall be removed when there is not work activity ongoing.

The Exit 46 bridge repair work shall be completed (joint replacements, joint modifications, partial depth milling, and resurfacing) prior to the approach/ departure mill, shim and overlay paving work.

The Contractor shall steel plate any bridge joint work not behind concrete barrier at the end of each work shift and open the roadway up to two lanes of mainline traffic.

Traffic will not be permitted to travel on the waterproofing membrane or significantly deteriorated concrete surfaces at the Exit 45 bridge.

Equipment Storage

The Contractor shall submit his 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 temporary work zones within the bridge deck of the Exit 45 Bridge shall not be used for any staging or lay down areas. The bridge work zones shall be cleared each day of any equipment or material storage to prevent unnecessary extra dead load. Construction live load shall be limited to 50 psf.

107.4.8 Failure to Complete Daily Work on Time (Lane Rental)

All mainline lanes shall be fully open to traffic for all times outside the allowed lane closure times in Appendix A. The Contractor shall pay a $500.00 lane rental fee for each five (5) minute block of time or portion thereof, per location, that a mainline lane, ramp, and toll plaza area closure(s) remains in place outside the allowed times on each roadway.

The paved lanes shall not be opened to traffic until the pavement internal temperature has cooled to 120°F, pavement markers (temporary and/or permanent) have been installed, and all traffic control devices have been removed from the mainline to the satisfaction of the Resident.

The following Subsection is added:

107.4.9 Failure to Stop Work When Directed

In the event the Authority determines that the safety of the turnpike users (public) might be unduly compromised if work on the Project is not halted; the Resident Engineer, Resident Inspector or other authorized Authority representative will notify the Contractor to stop work. This may include directive to the Contractor to remove lane closures due to significant traffic delays. If the Contractor refuses to stop work within the time frame determined by the Authority, the Contractor will not be allowed to recommence work until after the Contractor meets with the Authority. In addition, work completed after the time allotted by the Authority to stop work, will not be measured for payment.

107.7.2 Schedule of Liquidated Damages

The table of liquidated damages is deleted and replaced with the following:

Original Contract Amount From More Than	Original Contract Amount up to and Including	Amount of Liquidated Damages per Calendar Day

$0	$100,000	$225
$100,000	$300,000	$350
$300,000	$500,000	$475
$500,000	$1,000,000	$675
$1,000,000	$2,000,000	$900
$2,000,000	$4,000,000	$1,000
$4,000,000	and more	$2,100

108.4 Payment for Materials Obtained and Stored

This Subsection in the General Provisions is deleted and not replaced.

This Subsection of the Standard Specifications is deleted and replaced with the following:

Acting upon a request from the Contractor, accompanied by the required documentation, the Authority will pay for all or part of the value of acceptable, non-perishable Materials that are to be incorporated in the Work, including Materials that are to be incorporated into the Work not delivered on the Work site, and stored at places acceptable to the Authority (e.g. at a facility controlled by the Contractor or his Subcontractor\Fabricator). Examples of such Materials include steel piles, structural steel, prestressed concrete beams and slabs, stone masonry, curbing, timber and lumber, metal culverts, and other similar Materials. The Authority will not make payment on living or perishable Materials until acceptably planted in their final locations.

For structural steel fabrication, the Authority will not make partial payments for expenses such as shop drawing development, overhead, transportation, rent, storage, heat, Contractor mark-ups or other items until after fabrication has commenced. Payment will be based on the Authority's determination of percent complete at the close of the period.

As a condition of payment, the Contractor or his Subcontractor\Fabricator shall provide the following:

1. Proof that all Materials are stored in a secure location acceptable to the Authority.
2. Detailed invoices from the material supplier including a summary of the Materials provided, quantities shipped and received, unit costs, taxes, transportation fees, and all other charges included in the invoice total.
3. Copies of mill certifications, or other material certifications, as required by the Specifications relevant to the Materials.
4. Right of access for the Authority, or its duly authorized agent, to inspect and quantify the Materials at the approved storage site.
5. Proof of insurance for the stored Materials. The Contractor or his Subcontractor\Fabricator shall carry insurance, equal to 100% of the replacement value of the Materials, for all stored Materials. The Maine Turnpike Authority shall be named as an Additional Insured on the insurance policy.

If payment for Materials obtained and stored by the Contractor's Subcontractor\Fabricator is made to the Contractor, then the Contractor must provide proof of payment from his Subcontractor\Fabricator within 14 calendar days of the date the Contractor

receives payment for the Materials. Failure by the Contractor to provide timely proof of payment for these Materials will result in the paid amount being withheld from the subsequent progress payment, or payments, until such time proof of payment is received by the Authority.

Materials paid for by the Authority will become the property of the Authority, but the risk of loss shall remain with the Contractor. Payment for Materials does not constitute acceptance of the Material. If Materials for which the Authority has paid are later found to be unacceptable, then the Authority may withhold amounts reflecting such unacceptable Materials from payments otherwise due the Contractor.

In the event of Default, the Authority may use, or cause to be used, all paid-for-Materials in any manner that is in the best interest of the Authority.

108.4.1 Price Adjustment for Hot Mix Asphalt

This Subsection in the General Provisions is deleted and replaced with the following:

For Contracts containing an excess of 500 tons of bituminous pavement, an asphalt price adjustment will be made for all bituminous concrete placed after the bid date of the Contract. No asphalt price adjustment will be allowed for Contracts containing less than 500 tons.

Price adjustments will be based on the variance in cost for the performance-graded binder component of the hot mix asphalt. The quantity of hot mix asphalt for each pay item will be multiplied by performance graded binder given in the table below, times the difference in price between the base price and the period price of asphalt cement. Adjustments will be made upward or downward, as prices increase or decrease. The quantity of Hot Mix Asphalt will be determined from the quantity shown on the progress estimate for each pay period. The base price of performance graded binder to be used is the price per standard ton current with the bid opening date. The period price of performance grade binder shall be determined by the Authority by using the average New England Selling Price and shall be the price per standard ton current with the ending date of the progress estimate. The Authority will determine the price adjustment weekly as prices increase or decrease and the sum of the weekly totals will be included in the monthly payment. No price adjustment will be made after the substantial completion date of October 16, 2015. The last price listed before October 16, 2015 will be used for pavement placed after the substantial completion date. The prices shall be determined by using the average New England Selling Price, as listed in the Asphalt Weekly Monitor.

Item 403.206	Hot Mix Asphalt - 25 mm	4.8%
Item 403.207	Hot Mix Asphalt - 19 mm	5.2%
Item 403.208	Hot Mix Asphalt - 12.5 mm	5.6%
Item 403.209	Hot Mix Asphalt - 9.5 mm (sidewalks, drives, & incidentals)	6.2%
Item 403.210	Hot Mix Asphalt - 9.5 mm	6.2%
Item 403.211	Hot Mix Asphalt - Shim	6.2%
Item 403.212	Hot Mix Asphalt - 4.75 mm	6.8%
Item 403.213	Hot Mix Asphalt - 12.5 mm (base and intermediate course)	5.6%

109.7.3 Compensable Items

The following is added to Item 3.:

3. "A maximum 15% markup will be allowed on the total..."

The following is added to the end of the paragraph:

4. ..."if determined by the Authority to be lower."

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Existing Concrete – Median Barrier)

202.01 Description

The following paragraphs are added:

This work includes the removal and disposal of the existing concrete median barrier, and existing median barrier end posts at the Exit 45 Bridge as shown on the Plans. The existing median barrier end posts shall be removed to the elevation below the adjacent concrete deck elevation as shown on the Plans.

The concrete barrier removal shall not result in any damage to the existing deck reinforcing or adjacent deck concrete. After removal of the barrier concrete, all newly exposed reinforcing steel shall be cut flush with the concrete deck surface.

The Contractor may not dispose of demolition concrete within the project limits. All materials 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.

202.07 Method of Measurement

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

Removing Existing Concrete – Median Barrier will be measured by the lump sum.

Removal of deteriorated concrete associated with deck repairs or substructure repairs shall not be measured herein but shall be measured under the respective 518 pay items.

202.08 Basis of Payment

This Subsection is amended by the addition of the following:

Removing Existing Concrete – Median Barrier will be paid for at the Contract lump sum price and shall include all materials, labor, tools and equipment necessary to remove and dispose of the demolished concrete barrier.

Payment will be made under:

Pay Item		Pay Unit
202.121	Removing Existing Concrete – Median Barrier	Lump Sum

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Existing Railing – Property of Contractor)

202.01 Description

The following paragraphs are added:

This work shall include removal and disposal of the existing steel railing at the Exit 45 Bridge as shown on the Plans. The removal process shall comply with the requirements in Special Provisions 105.2.4.2 Lead Paint and 107.4.7 Limitations of Operations.

The Contractor may not dispose of demolition steel within the project limits. All materials 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 all applicable regulations.

202.03 Construction

After removal of the lead based paint the Contractor shall cleanly saw cut, shear or burn the vertical support post. All slag, slivers, and burrs shall be removed from the sawn, sheared or burned post end, and the cut ends shall receive two coats of zinc rich chromate paint.

202.07 Method of Measurement

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

Removing Existing Railing – Property of Contractor will be measured by the linear foot in place along the grade line of the railing to the limits show on the Plans. Removal of the vertical post to the cut line will not be measured separately but shall be in included in the linear foot measurement.

202.08 Basis of Payment

This Subsection is amended by the addition of the following:

Removing Existing Railing – Property of Contractor will be paid for at the Contract unit price per foot and shall include all materials, labor, tools, shielding and equipment necessary to remove and dispose of the demolished railing.

Payment will be made under:

Pay Item		Pay Unit
202.14	Removing Existing Railing – Property of Contractor	Linear Foot

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Pavement Surface)
(Removing Pavement Surface – Bridge Deck)
(Removing Pavement Surface – Full Depth)

202.01 Description

The following paragraphs are added:

This work consists of removing pavement surface on the Exit 46 ramps as shown on the Plans.

This work also consists of removing pavement full depth from the shoulders of the Exit 46 ramps and at two shoulder locations on the Turnpike mainline as shown on the Plans.

This work also consists of removing the bituminous pavement and membrane at Exit 45 Bridge, removing the surface of the bituminous pavement at the Exit 46 Bridge, and removing the surface of bituminous pavement on approach roadways to the depth, width, grade, and cross section as shown on the Plans or as directed by the Resident.

Removal of the pavement and membrane surface from the Exit 45 Bridge decks shall be completed by scraping or other methods that will not damage the existing concrete deck surface. Milling of bridge deck pavement shall not be allowed at Exit 45 Bridge. It should be noted that the existing membrane on the Exit 45 Bridge consists of two types of membrane, (sheet membrane and liquid-applied) therefore the removal process may require two different methods.

Removal of approach pavement and pavement on the Exit 46 Bridge shall be completed through the use of a milling machine.

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

This work shall also consist of construction of temporary ramps at all butt joints as shown in the MaineDOT Standard Detail – Pavement Overlay Butt Joint Detail (Roadways), Page 202(01) or as approved by the Resident. The length of the temporary ramp shall be at least 18 feet for each 1 inch of pavement elevation change.

The following Subsection is added:

202.032 Removing Bridge Pavement Surface and Membrane

All bridge deck pavement, membrane and scrapings shall be disposed of by the Contractor off of the turnpike right-of-way in accordance with the Maine Department of Environmental Protection Solid Waste Management Requirements.

The following Subsection is added:

202.0611 Removing Pavement (milling)

The equipment for removing the bituminous surface shall be a power-operated milling machine or planer capable of removing the bituminous concrete pavement to the required depth. The milling machine shall be capable of accurately establishing profile grades by referencing from a floating straight edge, a minimum of 50 feet. The equipment shall also have an effective means for removing excess material from the surface and preventing accidents from flying material in compliance with Subsection 105.2.5, Safety and Convenience of the Public, of the Specification.

The Contractor shall locate and remove all objects in the work area that would be detrimental to his milling or planing machine.

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

202.07 Method of Measurement

The second paragraph is deleted and replaced with the following:

Removing Pavement Surface will be measured by the square yard of material removed to the required depth at Exit 46 ramps and Exit 46 bridge.

Removing Pavement Surface – Bridge Deck will be measured by the square yard of material removed to the required depth, and will include the complete removal of the existing waterproofing membrane on the Exit 45 Bridge deck.

Removing Pavement Surface – Full Depth will be measured by the square yard of material removed to the required depth at the two mainline shoulder locations and at the Exit 46 ramp shoulder location.

The following paragraph is added:

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

202.08 Basis of Payment

The following paragraphs are added:

The accepted quantity of Removing Pavement Surface will be paid at the Contract unit price per square yard which price shall be full compensation for removing the pavement surface from bridge and approach roadways to the required depth, hauling, and stockpiling the material, locating and removing objects detrimental to the milling or planing machine, sweeping, labor, equipment and all other incidentals necessary to complete the work.

The accepted quantity of Removing Pavement Surface - Bridge Deck will be paid at the Contract unit price per square yard which price shall be full compensation for removing the pavement surface and membrane materials from the bridge deck, hauling, and stockpiling the material, locating and removing objects detrimental to the equipment removing the pavement and membrane, sweeping, labor, equipment and all other incidentals necessary to complete the work.

The accepted quantity of Removing Pavement Surface – Full Depth will be paid at the Contract unit price per square yard which price shall be full compensation for removing the pavement surface from roadways to the required depth, hauling, and stockpiling the material, locating and removing objects detrimental to the milling or planing machine, sweeping, regarding of the remaining material, labor, equipment and all other incidentals necessary to complete the work. Payment will be made under:

Pay Item		Pay Unit
202.202	Removing Pavement Surface	Square Yard
202.2021	Removing Pavement Surface – Bridge Deck	Square Yard
202.2022	Removing Pavement Surface – Full Depth	Square Yard

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Pavement Surface – Drainage Paths)

202.01 Description

The following paragraphs are added:

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

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

Installation of drainage paths is not required where the ramp's super elevation will carry drainage off the milled surface without ponding.

The following Subsection is added:

202.011 Materials

Grinding shall be done in accordance with Section 202.

Bituminous pavement shall conform to Section 401, Hot Mix Asphalt, 9.5 mm.

Bituminous tack coat shall conform to Section 409.

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

202.06 Removing Bituminous Concrete Pavement

This Subsection is deleted and replaced with the following:

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

The drainage paths shall be installed at the roadway low points of the sag vertical curves and at 250 foot intervals on both the outside and inside shoulders of plaza areas and normal crowned ramps; and on the low side (only) of super elevated ramps. Drainage paths shall not be installed within 500 feet of the crest of a vertical curve. The drainage path shall extend from the

edge of the milled lane and daylight six feet into the outside shoulder unless otherwise approved by the Resident.

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

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

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

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

Vehicles will be permitted to traverse unfilled drainage paths.

202.07 Method of Measurement

The second paragraph is deleted and replaced with the following:

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

202.08 Basis of Payment

The following is added after the last paragraph:

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

Payment will be made under:

Pay Item		Pay Unit
202.2026	Removing Pavement Surface – Drainage Paths	Square Foot

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

This Section is amended as follows:

All references to "waste storage areas" shall be deleted.

203.01 Description

The following paragraph is added:

This work also consists of shaping and compacting areas excavated under Item 202.2022 Removing Pavement Surface – Full Depth prior to the installation of additional granular material or placing of pavement.

203.04 General

The third paragraph is deleted and replaced with the following:

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.

Any temporary earth support required to install or remove drainage structures and utilities and support existing or proposed utilities will not be measured separately for payment, but shall be incidental to the Excavation items.

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.

After excavation in clay areas, the surface of the clay material must be scarified or roughened prior to placing loam and seed. Failed slopes shall be repaired at the Contractor's own expense.

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.

203.11 Construction of Earth Embankment - Layer Method

The second, third, and fourth paragraphs are deleted and replaced with the following:

Layers shall be placed in lifts not to exceed 12 inches after compaction. Common borrow shall be compacted using vibratory compaction equipment to 92 percent of the material's maximum dry density as determined by ASTM D-1557. The compacted material shall appear firm and stable. Strict moisture control shall be utilized by the Contractor when using a cohesive fill material and the moisture content of the compacted material should not exceed four percent above the material's optimum moisture content.

The first sentence of the fourth paragraph is amended as follows:

Satisfactory compaction of granular borrow is defined as not less than 95 percent of the maximum density.

203.12 Construction of Earth Embankment with Moisture and Density Control

The last sentence of the second paragraph is amended as follows:

Each granular borrow layer placed with controlled moisture shall be compacted to not less than 95 percent of the maximum density.

The following paragraph is added:

Common borrow shall be placed in lifts not to exceed 12 inches after compaction. Common borrow shall be compacted using vibratory compaction equipment to 92 percent of the material's maximum dry density as determined by ASTM D-1557. The compacted material shall appear firm and stable. Strict moisture control shall be utilized by the Contractor when using a cohesive fill material and the moisture content of the compacted material should not exceed four percent above the material's optimum moisture content.

<u>203.18 Method of Measurement</u>

Any reference to borrow will be deleted from the first paragraph.

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

Shaping and compacting areas excavated under Item 202.2022 Removing Pavement Surface – Full Depth prior to the installation of additional granular material or placing of pavement will not be measure separately but shall be incidental to Item 203.20 Common Excavation.

SPECIAL PROVISIONS

SECTION 203

EXCAVATION AND EMBANKMENT

(Common Borrow, Truck Measure)

203.01 Description

The following sentence is added:

This work shall also consist of furnishing, grading and compacting common borrow used for slope widening in areas shown on the plans or as approved by the Resident.

203.04 General

The following paragraph is added:

Existing excavation shall be used as fill material. Unsuitable material shall be disposed of as directed and no material shall be wasted without permission. Common borrow will only be paid for when it is brought on-site from an outside source.

203.18 Method of Measurement

The following paragraph is added:

Common Borrow will be measured for payment by the cubic yard, truck measure, at 85 percent of measured volume. The measurement will be in vehicles at the point of delivery as shown on delivery slips.

203.19 Basis of Payment

The following sentences are added:

The accepted quantity of Common Borrow, Truck Measure will be paid for at the Contract unit price per cubic yard.

Payment will be made under:

Pay Item		Pay Unit
203.241	Common Borrow, Truck Measure	Cubic Yard

SPECIAL PROVISION

SECTION 206

STRUCTURAL EXCAVATION

This Section is amended as follows:

All references to "waste storage areas" shall be deleted.

206.01 Description

The following is added after the first paragraph:

This work also shall consist of excavating and removal of earth materials at the bridge abutments at areas requiring repair within the limits of work as shown on the Plans or as approved by the Resident. This shall include the necessary earth removal for Exit 45 Bridge backwall concrete repairs and Exit 46 Bridge approach slab modifications.

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.

The bituminous pavement shall be disposed of by the Contractor off the Turnpike Right-of-Way. All bituminous pavement shall be disposed of in accordance with Chapter 404 of the Maine Department of Environmental Protection Solid Waste Management Regulations.

206.04 Method of Measurement

The following paragraph is added:

Excavation required to expose repair areas will be paid for under Item 206.08, Structural Earth Excavation - Major Structures. Backfill of the repair areas, not requiring gravel or hot bituminous pavement, will not be measured separately for payment, but shall be incidental to the Structural Earth Excavation item.

206.05 Basis of Payment

The following is added after the first paragraph:

The work shall also include all materials, equipment and labor associated with excavating, backfilling and compacting areas of structural excavation.
Payment will be made under:

Pay Item		Pay Unit
206.082	Structural Earth Excavation – Major Structures	Cubic Yard

SPECIAL PROVISION

SECTION 401

HOT MIX ASPHALT PAVEMENT

The following Specification is based on the MaineDOT February 11, 2009 Specification for Division 400, Pavements.

Section 401, Hot Mix Asphalt is deleted in its entirety and replaced with the following:

401.01 Description

The Contractor shall furnish and place one or more courses of Hot Mix Asphalt Pavement (HMA) on an approved base in accordance with the Contract documents and in reasonably close conformity with the lines, grades, thickness, and typical cross sections as shown on the Plans or established by the Resident. The Authority will accept this work under Quality Assurance provisions, in accordance with these Specifications and the requirements of Section 106, Quality, the provisions of AASHTO M 323, except where otherwise noted in Sections 401 and 703 of these Specifications, and the MaineDOT Policies and Procedures for HMA Sampling and Testing.

401.02 Materials

Materials shall meet the requirements specified in Section 700, Materials:

- Asphalt Cement 702.01
- Aggregates for HMA Pavement 703.07
- HMA Mixture Composition 703.09

401.021 Recycled Asphalt Materials

Recycled Asphalt Pavement (RAP) may be introduced into the mixture at percentages approved by the Authority according to the MaineDOT Policies and Procedures for HMA Sampling and Testing. If approved by the Authority, the Contractor shall provide documentation stating the source, average test results for average residual asphalt content, and stockpile gradations showing RAP materials have been sized to meet the maximum aggregate size requirements of each mix designation. The Authority will obtain samples for verification and approval prior to its use.

In the event that RAP source or properties change, the Contractor shall notify the Authority of the change and submit new documentation stating the new source or properties a minimum of 72-hours prior to the change to allow for obtaining new samples and approval.

The RAP for surface pavement shall be processed to meet the requirements of Class I RAP. The shim pavement RAP may be from any source meeting the requirements of Class II RAP. (Class I and Class II RAP is defined in Section 703.081 of the Maine Department of Transportation Standard Specifications - November 2014 Edition.)

401.03 Composition of Mixtures

The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. HMA shall be designed and tested according to AASHTO R35 and the volumetric criteria in Table 1. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF). The Contractor may use a maximum of 15 percent reclaimed asphalt pavement (RAP) in any base, binder, surface, or shim course, unless otherwise noted.

The MaineDOT (Department), or an independent consultant approved by the Authority, will be providing the mix design verification (Job Mix Formula) for the Authority's approval. The Job Mix Formula (JMF) will be sent to the Department Central Laboratory in Bangor, Maine. The samples will be obtained by the Department for laboratory testing. Before the start of paving, the Contractor and the Department will split a sample for verification of design before production will be allowed. The Contractor shall submit for Authority approval a JMF for each mixture to be supplied. The Authority may approve one (1) active design per nominal maximum size, per traffic level, per plant, plus a 9.5 mm "fine" mix @ 50 gyrations for shimming, and where required, a non-RAP design for bridge decks. The Authority shall then have 15 calendar days in which to process a new design before approval. 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.
- 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 asphalt contents.
- Design Aggregate Structural for at least three trial blends.
- Test results for the selected aggregate blend at a minimum of three binder contents.
- Specific Gravity and temperature/viscosity charts 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 of the Department's written policy for mix design verification (See Maine DOT Policies and Procedures for HMA Sampling and Testing available at the Central Laboratory in Bangor). 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 Department finds the mixture acceptable, an approved JMF will be forwarded to the Authority. 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 may be adjusted up to 10 percentage points from the amount listed on the JMF, however no aggregate listed on the JMF shall be eliminated. The cold feed percentage for RAP may be reduced up to 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

<table>
<tr><th rowspan="3">Design ESAL's (Millions)</th><th colspan="3" rowspan="2">Required Density (Percent of G_{mm})</th><th colspan="5">Voids in the Mineral Aggregate (VMA)(Minimum Percent)</th><th rowspan="3">Voids Filled with Binder (VFB) (Minimum %)</th><th rowspan="3">Fines/Eff. Binder Ratio</th></tr>
<tr><th colspan="5">Nominal Maximum Aggregate Size (mm)</th></tr>
<tr><th>$N_{initial}$</th><th>N_{design}</th><th>N_{max}</th><th>25</th><th>19</th><th>12.5</th><th>9.5</th><th>4.75</th></tr>
<tr><td><0.3</td><td>≤91.5</td><td rowspan="5">96.0</td><td rowspan="5">≤98.0</td><td rowspan="5">13.0</td><td rowspan="5">14.0</td><td rowspan="5">15.0</td><td rowspan="5">16.0</td><td rowspan="5">16.0</td><td>70-80</td><td rowspan="5">0.6-1.2</td></tr>
<tr><td>0.3 to <3</td><td>≤90.5</td><td>65-80</td></tr>
<tr><td>3 to <10</td><td rowspan="3">≤89.0</td><td rowspan="3">65-80*</td></tr>
<tr><td>10 to <30</td></tr>
<tr><td>≥ 30</td></tr>
</table>

** 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*

401.031 Warm Mix Technology

The Contractor may place Hot Mix Asphalt Pavement produced with an accepted WMA technology if approved by the Authority. Methods or technologies shall generally be at the Contractors' option, but will be limited to proven, Agency and Industry accepted practice. Mixture production, placement and volumetric testing details, including temperatures, shall be included in the project specific QCP, submitted to the Authority for approval prior to any work.

401.04 Temperature Requirements

After the JMF is established, the temperatures of the mixture shall conform to the following tolerances:

- In the truck at the mixing plant – allowable range 275° to 325°F.
- At the paver – allowable range 275° to 325°F.
- Or the recommendations, approved by the Authority, from the Asphalt Binder supplier.

The JMF and the mix subsequently produced shall meet the requirements of Table 1 and Subsection 703.07.

401.05 Performance Graded Asphalt Binder

Unless otherwise noted in Special Provision Section 403, Hot Bituminous Pavement, PGAB shall be 64-28. The PGAB shall meet the applicable requirements of AASHTO M320 - Standard Specification for PGAB. The Contractor shall request approval from the Authority for a change in PGAB supplier or source by submitting documentation stating the new supplier or source a minimum of 24-hours prior to the change. In the event that the PGAB supplier or source is changed, the Contractor shall make efforts to minimize the occurrence of PGAB co-mingling.

401.06 Weather and Seasonal Limitations

The Contractor may place Hot Mix Asphalt Pavement for use other than a traveled way wearing course, provided that the air temperature as determined by an approved thermometer (placed in the shade at the paving location) is 40°F or higher and the area to be paved is not frozen. The Contractor may place Hot Mix Asphalt Pavement as traveled way wearing course, provided the air temperature determined as above is 45°F or higher. For the purposes of this Section, the traveled way includes truck lanes, ramps, approach roads and auxiliary lanes. The atmospheric temperature for all courses on bridge decks shall be 50°F or higher.

Hot Mix Asphalt Pavement used for curb, driveways, sidewalks, islands, or other incidentals is not subject to seasonal limitations, except that conditions shall be satisfactory for proper handling and finishing of the mixture. All mixtures used for curb, driveways, sidewalks, islands, or other incidentals shall conform to Subsection 401.04, Temperature Requirements. Unless otherwise specified, the Contractor shall not place Hot Mix Asphalt Pavement on a wet or frozen surface and the air temperature shall be 40°F or higher.

On all sections of overlay with wearing courses one inch thick or less, the wearing course for the travelway and adjacent shoulders shall be placed provided the air temperature is determined as above 50°F or higher.

401.07 Hot Mix Asphalt Plant

401.071 General Requirements

HMA plants shall conform to AASHTO M156.

a. Truck Scales - When the hot mix asphalt is to be weighed on scales meeting the requirements of Section 108, Payment, the scales shall be inspected and sealed by the State Sealer as often as the Authority deems necessary to verify their accuracy.

Plant scales shall be checked prior to the start of the paving season, and each time a plant is moved to a new location. Subsequent checks will be made as determined by the Resident. The Contractor will have at least ten 50 pound masses for scale testing.

401.072 Automation of Batching

Batch plants shall be automated for weighing, recycling, and monitoring the system. In the case of a malfunction of the printing system, the requirements of Subsection 401.074 c. of this Specification will apply.

The batch plant shall accurately proportion the various materials in the proper order by weight. The entire batching and mixing cycle shall be continuous and shall not require any manual operations. The batch plant shall use auxiliary interlock circuits to trigger an audible alarm whenever an error exceeding the acceptable tolerance occurs. Along with the alarm, the printer shall print an asterisk on the delivery slip in the same row containing the out-of-tolerance weight. The automatic proportioning system shall be capable of consistently delivering material within the full range of batch sizes. When RAP is being used, the plant must be capable of automatically compensating for the moisture content of the RAP.

All plants shall be equipped with an approved digital recording device. The delivery slip load ticket shall contain information required under Subsection 108.1.3, Provisions Relating to Certain Measurements, Mass and Paragraphs a, b, and c of Subsection 401.073.

401.073 Automatic Ticket Printer System on Automatic HMA Plant

An approved automatic ticket printer system shall be used with all approved automatic HMA plants. The requirements for delivery slips for payment of materials measured by weight, as given in the following Sections, shall be waived: 108.1.3 a., 108.1.3 b., 108.1.3 c., and 108.1.3 d. The automatic printed ticket will be considered as the Weight Certificate.

The requirements of Subsection 108.1.3 f., Delivery Slips, shall be met by the weigh slip or ticket, printed by the automatic system, which accompanies each truckload, except for the following changes:

a. The quantity information required shall be individual weights of each batch or total net weight of each truckload.

b. Signatures (legible initials acceptable) of Weighmaster (required only in the event of a malfunction as described in 401.074 c.).
c. The MaineDOT designation for the JMF.

401.074 Weight Checks on Automatic HMA Plant

At least twice during each five days of production either of the following checks will be performed:

a. A loaded truck may be intercepted and weighed on a platform scale that has been sealed by the State Sealer of Weights and Measures within the past 12 months. The inspector will notify the producer to take corrective action on any discrepancy over 1.0%. The producer may continue to operate for 48 hours under the following conditions:
   1. If the discrepancy does not exceed 1.5%; payment will still be governed by the printed ticket.
   2. If the discrepancy exceeds 1.5%, the plant will be allowed to operate as long as payment is determined by truck platform scale net weight.

   If, after 48 hours the discrepancy has not been addressed and reduced below 1.0%, then plant operations will cease. Plant operation may resume after the discrepancy has been brought within 1.0%.

b. Where platform scales are not readily available, a check will be made to verify the accuracy and sensitivity of each scale within the normal weighing range and to assure that the interlocking devices and automatic printer system are functioning properly.

c. In the event of a malfunction of the automatic printer system, production may be continued without the use of platform truck scales for a period not to exceed the next two working days, providing total weights of each batch are recorded on weight tickets and certified by a Licensed Public Weighmaster.

401.08 Hauling Equipment Trucks for Hauling Hot Mix Asphalt

Trucks for hauling Hot Mix Asphalt Pavement shall have tight, clean, and smooth metal dump bodies, which have been thinly coated with a small amount of approved release agent to prevent the mixture from adhering to the bodies. Solvents based agents developed to strip asphalts from aggregates will not be allowed as release agents.

All truck dump bodies shall have a cover of canvas or other water repellent material capable of heat retention, which completely covers the mixture. The cover shall be securely fastened on the truck, unless unloading.

All truck bodies shall have an opening on both sides, which will accommodate a thermometer stem. The opening shall be located near the midpoint of the body, at least 12 inches above the bed.

401.09 Pavers

Pavers shall be self-contained, self-propelled units with an activated screed (heated if necessary) capable of placing courses of Hot Mix Asphalt Pavement in full lane widths specified in the Contract on the mainline, shoulder or similar construction.

On projects with no price adjustment for smoothness, pavers shall be of sufficient class and size to place Hot Mix Asphalt Pavement over the full width of the mainline travel way with a 10 feet minimum main screed with activated extensions.

The Contractor shall place Hot Mix Asphalt Pavement on the mainline with a paver using an automatic grade and slope controlled screed, unless otherwise authorized by the Authority. The controls shall automatically adjust the screed and increase or decrease the layer thickness to compensate for irregularities in the preceding course. The controls shall maintain the proper transverse slope and be readily adjustable so that transitions and super elevated curves can be properly paved. The controls shall operate from a fixed or moving reference such as a grade wire or ski type device (floating beam) with a minimum length of 30 ft, a non-contact grade control with a minimum span of 24 ft, except that a 40 ft reference shall be used on mainline projects.

The Contractor shall operate the paver in such a manner as to produce a visually uniform surface texture and a thickness within the requirements of Subsection 401.101, Surface Tolerances. The paver shall have a receiving hopper with sufficient capacity for a uniform spreading operation and a distribution system to place the mixture uniformly, without segregation in front of the screed. The screed assembly shall produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. Pavers with extendible screeds shall have auger extensions and tunnel extenders as per the manufacturer's recommendations, a copy of which shall be available if requested.

The Contractor shall have the paver at the Project site sufficiently before the start of paving operations to be inspected and approved by the Authority. The Contractor shall repair or replace any paver found worn or defective, either before or during placement, to the satisfaction of the Authority. Pavers that produce an unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA on MTA projects. On a daily basis, the Contractor shall perform density testing across the uncompacted mat being placed, at 12 inch intervals. If the values vary by more than 2.0 percent from the mean, the Contractor shall make adjustments until the inconsistencies are remedied.

Failure to replace or repair defective placement equipment may result in a letter of suspension of work and notification of a quality control violation resulting in possible monetary penalties as governed by Section 106, Quality.

401.10 Rollers

Rollers shall be static steel, pneumatic tire, oscillatory, or approved vibrator type. Rollers shall be in good mechanical condition, capable of starting and stopping smoothly, and be free from backlash when reversing direction. Rollers shall be equipped and operated in such a way as to prevent the picking up of hot mixed material by the roller surface. The use of rollers, which result in crushing of the aggregate or in displacement of the HMA will not be permitted. Any

Hot Mix Asphalt Pavement that becomes loose, broken, contaminated, shows an excess or deficiency of Performance Graded Asphalt Binder, or is in any other way defective shall be removed and replaced at no additional cost with fresh Hot Mix Asphalt Pavement, which shall be immediately compacted to conform to the adjacent area.

The Contractor shall repair or replace any roller found to be worn or defective, either before or during placement, to the satisfaction of the Authority. Rollers that produce grooved, unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA on MTA projects.

The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor's option, provided Specification densities are attained and with the following requirements:

a. On variable-depth courses, the first lift of pavement over gravel, reclaimed pavement, an irregular or milled surfaces, or on bridges, at least one roller shall be a 16 ton pneumatic-tired. Unless otherwise allowed by the Resident, pneumatic-tired rollers shall be equipped with skirting to minimize the pickup of HMA materials from the paved surface. When required by the Resident, the roller shall be ballasted to 20 ton.

b. Compaction with a vibratory or steel wheel roller shall precede pneumatic-tired rolling, unless otherwise authorized by the Authority.

c. Vibratory rollers shall not be operated in the vibratory mode when checking or cracking of the mat occurs, or on bridge decks.

d. Any method, which results in cracking or checking of the mat, will be discontinued and corrective action taken.

e. The use of an oscillating steel roller shall be required to compact all mixtures placed on bridge decks.

The maximum operating speed for a steel wheel or pneumatic roller shall not exceed the manufacturer's recommendations, a copy of which shall be available if requested.

401.101 Surface Tolerances

The Authority will check surface tolerance utilizing the following methods:

a. A 16 ft straightedge or string line placed directly on the surface, parallel to the centerline of pavement.
b. A 10 ft straightedge or string line placed directly on the surface, transverse to the centerline of pavement.

The allowable tolerance shall be ¼ inch in the segment as described above. This includes fresh HMA joints as well as new HMA adjoining existing pavement. The tolerance shall also apply to the cross slope in a single paver width with the exception that in no case shall the cross slope in the single paver width be inverted resulting in a depression as measured transverse to the

direction of travel. The Contractor shall correct variations exceeding 1/4 in by removing defective work and replacing it with new material as directed by the Authority. The Contractor shall furnish a 10 foot straightedge for the Authority's use.

401.11 Preparation of Existing Surface

The Contractor shall thoroughly clean the surface upon which Hot Mix Asphalt Pavement is to be placed of all objectionable material. When the surface of the existing base or pavement is irregular, the Contractor shall bring it to uniform grade and cross section. All surfaces shall have a tack coat applied prior to placing any new HMA course. Tack coat shall conform to the requirements of Section 409, Bituminous Tack Coat, Section 702, Bituminous Material, and all applicable sections of the Contract.

401.12 Hot Mix Asphalt Documentation

The Contractor and the Authority shall agree on the amount of Hot Mix Asphalt Pavement that has been placed each day. All delivery slips shall conform to the requirements of 401.073.

401.13 Preparation of Aggregates

The Contractor shall dry and heat the aggregates for the HMA to the required temperature. The Contractor shall properly adjust flames to avoid physical damage to the aggregate and to avoid depositing soot on the aggregate.

401.14 Mixing

The Contractor shall combine the dried aggregate in the mixer in the amount of each fraction of aggregate required to meet the JMF. The Contractor shall measure the amount of PGAB and introduce it into the mixer in the amount specified by the JMF.

The Contractor shall produce the HMA at the temperature established by the JMF.

The Contractor shall dry the aggregate sufficiently so that the HMA will not flush, foam excessively, or displace excessively under the action of the rollers. The Contractor shall introduce the aggregate into the mixer at a temperature of not more than 25°F above the temperature at which the viscosity of the PGAB being used is 0.150 Pa·s (Pascal-second).

The Contractor shall store and introduce into the mixer the Performance Graded Asphalt Binder at a uniformly maintained temperature at which the viscosity of the PGAB is between 0.150 Pa·s and 0.300 Pa·s. The aggregate shall be coated completely and uniformly with a thorough distribution of the PGAB. The Contractor shall determine the wet mixing time for each plant and for each type of aggregate used.

401.15 Spreading and Finishing

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impracticable, the Contractor shall spread, rake, and lute the

HMA with hand tools to provide the required compacted thickness. Solvent based agents developed to strip asphalts from aggregates will not be allowed as release agents.

On roads opened to two-way traffic, the Contractor shall place each course over the full width of the traveled way section being paved that day, unless otherwise noted by the Authority in Section 403, Hot Mix Asphalt Pavement.

In addition, hot mix asphalt pavement placed on bridges shall also conform to Section 508.04 and the following requirements.

a. The bottom course shall be placed with an approved rubber mounted paver of such type and operated in such a manner that the membrane waterproofing will not be damaged in any way.

b. The top course shall not be placed until the bottom course has cooled sufficiently to provide stability.

c. The Contractor will not be required to cut sample cores from the compacted pavement on the bridge deck, unless otherwise directed by Special Provisions.

d. After the top course has been placed, the shoulder areas shall be sealed 3 ft wide with two applications of an emulsified bituminous sealer meeting the requirements of Section 612.03 – Sealing and Section 702.12 – Emulsified Bituminous Sealing Compound. The first application shall be pre-mixed with fine, sharp sand, similar to mortar sand, as needed to fill all voids in the mix in the area being sealed. The second application may be applied without sand. The sealer shall be carried to the curb at the gutter line in sufficient quantity to leave a bead or fillet of material at the face of curb. The area to be sealed shall be clean, dry and the surface shall be at ambient temperature.

e. The furnishing and applying of the required quantity of sealer for the bridge shoulder areas shall be incidental to placing the hot mix asphalt pavement. The sealer shall be applied after 30 days of cure time on the new HMA placed.

f. The atmospheric temperature for all courses placed on bridge decks shall be 50°F or higher.

401.16 Compaction

Immediately after the Hot Mix Asphalt Pavement has been spread, struck-off, and any surface irregularities adjusted, the Contractor shall thoroughly and uniformly compact the HMA by rolling.

The Contractor shall roll the surface when the mixture is in the proper condition and when the rolling does not cause undue displacement, cracking, or shoving. The Contractor shall prevent adhesion of the HMA to the rollers or vibrating compactors without the use of fuel oil or other petroleum based release agents. Solvents designed to strip asphalt binders from aggregates will not be permitted as release agents on equipment, tools, or pavement surfaces.

The Contractor shall immediately correct any displacement occurring as a result of the reversing of the direction of a roller or from other causes to the satisfaction of the Authority. Any operation other than placement of variable depth shim course that results in breakdown of the aggregate shall be discontinued. Any new pavement that shows obvious cracking, checking, or displacement shall be removed and replaced for the full lane width as directed by the Resident at no cost to the Authority.

Along forms, curbs, headers, walls, and other places not accessible to the rollers, the Contractor shall thoroughly compact the HMA with mechanical vibrating compactors. The Contractor shall only use hand tamping in areas inaccessible to all other compaction equipment. On depressed areas, the Contractor may use a trench roller or cleated compression strips under a roller to transmit compression to the depressed area.

Any HMA that becomes unacceptable due to cooling, cracking, checking, segregation or deformation as a result of an interruption in mix delivery shall be removed and replaced, with material that meets Contract Specifications at no cost to the Authority.

401.162 Voids

The HMA will be accepted for percent air voids on a sublot basis. Percent air voids will be determined in accordance with AASHTO T 312. Point of sampling will be from the truck at the plant. A sublot will consist of 500 tons. The number of samples per day will be computed as one for every 500 tons plus one for any additional fractional sublot that is equal to or greater than 100 tons or as directed by the Resident. There shall be a minimum of one sublot per day per JMF. One sample shall be taken and tested for each 500 tons of production or portions thereof. Full payment will be made for each 500 tons of production that meets the specified void range of 2.5 to 5.5 percent.

Payment reduction will be applied to each sublot (500 tons) that falls outside of this range. See Subsection 401.21.

401.163 PGAB Content

The HMA will be accepted for PGAB content on a sublot basis. PGAB content will be determined in accordance with AASHTO T 308. Point of sampling will be from the truck at the plant. A sublot will consist of 500 tons. The number of samples per day will be computed as one for every 500 tons plus one for any additional fractional sublot that is equal to or greater than 100 tons or as directed by the Resident. There shall be a minimum of one sublot per day per JMF.

Payment reduction will be applied to each sublot (500 tons) that falls outside the allowable limits. Note minimum asphalt content specified in Special Provision Section 403. See Subsection 401.21.

401.164 Density

Pavement density will be determined by comparing the density of six inch diameter full depth cores (for the course being laid) taken from the compacted pavement to the Theoretical Maximum Density of that core. Core locations shall be by random samples in conformance with

ASTM-D979 & D3665. The Contractor shall supply a masonry saw with a 12 inch deep diamond wet cutting saw blade capable of cutting the six inch diameter cores.

For determination of pavement density, core samples six inches in diameter, for the full depth of the course being laid, shall be taken by the Contractor from the mixture incorporated in the work after finishing operations have been completed and the pavement has cooled to 70°F. Ice or dry ice shall be used to reduce temperature as necessary.

Vertical surface of the core area shall be coated with rubberized joint sealer prior to refilling with bituminous mixture. Cores will not be cut for shim pavement.

The joint sealer, bituminous mixture and the labor for obtaining these samples in the field and restoring the surface shall be furnished without charge by the Contractor. The joint sealant shall conform to Federal Specification SS-S-1401C and shall be incidental to the pavement items. Care must be exercised to avoid excess joint material on top of the finish mat and at the bottom of the joint.

No additional course shall be constructed on a course until the density of the sample has been established and approved.

The densities of the completed pavement shall be 92.5 to 97.0 percent of the theoretical maximum density obtained.

The pavement will be accepted for density on a sublot basis. A sublot will consist of 500 tons. The number of cores per day will be computed as one for every 500 tons plus one for any portion that does not equal 500 tons or as directed by the Resident. There shall be a minimum of one sublot per day per JMF.

Each sublot will be evaluated separately and full or partial payment will be made based on the results of tests performed on the cores.

Payment reduction will be applied to each core that has a density outside of the allowable range (92.5 to 97.0). See Subsection 401.21.

401.17 Joints

The Contractor shall construct wearing course transverse and longitudinal joints in such a manner that minimum tolerances shown in Subsection 401.101, Surface Tolerances, are met when measured with a straightedge.

The paver shall always maintain a uniform head of HMA during the joint construction.

The HMA shall be free of segregation and meet temperature requirements outlined in Subsection 401.04. Transverse joints of the wearing course shall be straight and neatly trimmed. The Contractor may form a vertical face exposing the full depth of the course by inserting a header, by breaking the bond with the underlying course, or by cutting back with hand tools. The Authority may allow feathered or "lap" joints on lower base courses or when matching existing base type pavements.

Longitudinal joints shall be generally straight to the line of travel, and constructed in a manner that will best ensure joint integrity. Methods or activities that prove detrimental to the construction of straight, sound longitudinal joints will be discontinued.

Extra care shall be taken to insure satisfactory vertical joints in the pavements. The Contractor shall apply a coating of joint sealant immediately before paving all cold joints (temperatures less than 120°F) to the vertical face of the wearing surface unless otherwise directed by the Resident. A heavy application of tack coat shall be applied to the vertical face of all cold joints on lower lifts. The Contractor shall use an approved spray apparatus designed for covering a narrow surface. The Authority may approve application by a brush for small surfaces, or in the event of a malfunction of the spray apparatus, but for a period of not more than one (1) working day. Joint sealer shall conform to Federal Specification SS-S-1401C. The Contractor shall submit to the Resident a manufacturer's certification for the joint sealant (SS-S-1401C).

Where pavement under this Contract joins an existing pavement or when the Authority directs, the Contractor shall cut the existing pavement along a smooth line, producing a neat, even, vertical joint. The Authority will not permit broken or raveled edges. The cost of all work necessary for the preparation of joints is incidental to related Contract pay items.

401.18 Quality Control

The Contractor shall submit for approval and operate in accordance with the approved Quality Control Plan (QCP) to assure a product meeting the contract requirements. The QCP shall meet the requirements of Section 106.4 – Quality Control and this Section. The Contractor shall not begin paving operations until the Authority approves the QCP in writing. Prior to placing any mix, the Authority and the Contractor shall hold a Pre-paving conference to discuss the paving schedule, source of mix, type and amount of equipment to be used, sequence of paving pattern, rate of mix supply, random sampling, project lots and sublots and traffic control. A copy of the QC random numbers to be used on the project shall be provided to the Resident. The Authority's random numbers for Acceptance testing shall be generated and on file with the Resident and the Project Manager. All personnel of the Authority and the Contractor who have significant information relevant to the paving items shall attend, including the responsible onsite paving supervisor for the Contractor. The Resident will prepare minutes of the conference and distribute them to all attendees. Any requests to revise the minutes must be made to the Resident within 7 days of receipt. These minutes will constitute the final record of the pre-paving conference.

The QCP shall address any items that affect the quality of the Hot Mix Asphalt Pavement including, but not limited to, the following:

a. JMF(s)
b. Hot mix asphalt plant details
c. Stockpile Management (to include provisions for a minimum 2 day stockpile)
d. Make and type of paver(s)
e. Make and type of rollers including weight, weight per inch of steel wheels, and average contact pressure for pneumatic tired rollers
f. Name of QCP Administrator, and certification number
g. Name of Process Control Technician(s) and certification number(s)

h. Name of Quality Control Technician(s) and certification number(s)
i. Mixing and transportation including process for ensuring that truck bodies are clean and free of debris or contamination that could adversely affect the finished pavement
j. Testing plan
k. Laydown operations including longitudinal joint construction, procedures for avoiding paving in inclement weather, type of release agent to be used on trucks tools and rollers, compaction of shoulders, tacking of all joints, methods to ensure that segregation is minimized, procedures to determine the maximum rolling and paving speeds based on best engineering practices as well as past experience in achieving the best possible smoothness of the pavement. Solvent based agents developed to strip asphalts from aggregates will not be allowed as release agents
l. Examples of Quality Control forms including a daily plant report, daily paving report and delivery slip template for any plant to be utilized.
m. Silo management and details (can show storage for use on project of up to 36 hours)
n. Provisions for varying mix temperature due to extraordinary conditions or production limitations. If a warm-mix technology is utilized, a proposed target production range(not to exceed 50 F) will be provided for each mix design.
o. Name and responsibilities of the Responsible onsite Paving Supervisor
p. Method for calibration/verification of Density Gauge
q. A note that all testing will be done in accordance with AASHTO and the Maine DOT Policies and Procedures for HMA Sampling and Testing
r. A detailed description of RAP processing, stockpiling and introduction into the plant as well as a note detailing conditions under which the percent of RAP will vary from that specified on the JMF
s. A detailed procedure outlining when production will be halted due to QC or Acceptance testing results
t. A plan to address the change in PGAB source or supplier and the potential co-mingling of differing PGAB's.
u. Provisions for how the QCP will be communicated to the Contractor's field personnel

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

a. QCP Administrator – A qualified individual shall administer the QCP. The QCP Administrator must be a full-time employee of or a consultant engaged by the Contractor or paving subcontractor. The QCP Administrator shall have full Authority to institute any and all actions necessary for the successful operation of the QCP. The QCP Administrator (or its designee in the QCP Administrator's absence) shall be available to communicate with the Authority at all times. The QCP Administrator shall be certified as a Quality Assurance Technologist certified by the New England Transportation Technician Certification Program (NETTCP).
b. Process Control Technician(s) (PCT) shall utilize test results and other quality control practices to assure the quality of aggregates and other mix components and control proportioning to meet the JMF(s). The PCT shall inspect all equipment used in mixing to assure it is operating properly and that mixing conforms to the mix design(s) and other Contract requirements, and that delivery slips and plant recordation accurately reflects the mix being produced with all required information. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one PCT is required. The Plan shall include the criteria to be utilized by the PCT to correct or

reject unsatisfactory materials. The PCT shall be certified as a Plant Technician by the NETTCP.

c. Quality Control Technician(s) (QCT) shall perform and utilize quality control tests at the job site to assure that delivered materials meet the requirements of the JMF(s). The QCT shall inspect all equipment utilized in transporting, laydown, and compacting to assure it is operating property and that all laydown and compaction conform to the Contract requirements. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than on QCT is required. The QCP shall include the criteria utilized by the QCT to correct or reject unsatisfactory materials. The QCT shall be certified as a Paving Inspector by the NETTCP.

The QCP shall detail the coordination of the activities of the Plan Administrator, the PCT and the QCT. The Project Superintendent shall be named the QCP, and the responsibilities for successful implementation of the QCP shall be outlined

401.191 Inspection/Testing

All quality control testing at the plant and paving site for bituminous concrete paving shall be provided by the Contractor and will be incidental to the various items of the Contract. Quality control testing to verify the job mix formula at the plant shall be comprised of a sample taken and tested for each 500 tons of production. The plant will be shut down for two consecutive out of Specification test results for VMA, VFB, Fbe, PGAB content, gradation, and/or voids. Prior to resuming paving operations, the plant quality control unit shall satisfy the Authority that the plant production is in compliance with the Specifications. The plant, at no additional cost to the Authority, shall assign qualified quality control staff personnel and have an on-site laboratory equipped to perform all tests.

The Contractor shall submit a list of on-site laboratory and sampling facilities, including available equipment.

Adequate and convenient sampling facilities shall be provided, allowing the Resident and the Authority's designated quality assurance personnel to obtain representative samples from the full width and depth of the discharge area of each aggregate bin. The sampling tray shall be structurally supported during the sampling operation. Access to the sampling facilities shall be provided. The use of such access shall not be more difficult than climbing a ladder leading to a secure platform with railings.

Final acceptance shall be based on quality assurance tests to assure compliance with the job mix formula as established. Samples and certified quality control reports shall be available to the Resident and the Authority's designated quality assurance personnel as often as requested. Sample locations will be random in compliance with ASTM D3665 or as directed by the Resident.

When plant inspection is maintained, the material will be considered acceptable for use when the specified tests from samples obtained at the production plant indicate conformance to the approved job mix formula.

Quality assurance testing services for bituminous concrete pavement shall be provided by the Authority. The Contractor shall provide adequate space and all lab equipment, materials and

chemicals at the bituminous plant necessary to verify job mix formula (asphalt content (AASHTO T 164 or T 308) and gradations). Upon completion, the Contractor shall be responsible for the proper disposal of all materials and chemicals. This work will not be measured separately for payment, but shall be incidental to the various items of the Contract.

A. Inspection. The Resident, or his authorized representative, shall have access and use of the laboratory facilities at any time and access to all parts of the plant for:

1. Inspection of the condition and operations of the plant.
2. Confirmation of the adequacy of equipment in use.
3. Verification of the character and proportions of the mixture.
4. Determination of temperatures being maintained in the preparation of the mixtures.
5. Inspection of incidental related procedures.
6. Performing quality assurance testing.

B. Plant Testing Laboratory. The Contractor shall provide a plant testing laboratory for use by the Authority's quality assurance personnel for acceptance testing functions.

The plant laboratory shall be available at the following times for use by the Authority's quality assurance personnel:

1. During periods of pavement production;
2. During periods of sampling and testing; and,
3. Whenever materials subject to the provisions of these Specifications are being supplied or tested.

The Authority's quality assurance personnel will always have priority in use of the laboratory. The laboratory shall have sufficient equipment in order for both (Authority's and Contractor's) testing representatives to operate efficiently.

The plant testing laboratory shall have a floor space area of not less than 150 square feet, with a ceiling height of not less than 7-1/2 feet. The laboratory shall be weather tight, sufficiently heated in cold weather and air-conditioned in hot weather, to maintain temperatures for testing purposes of 70°F ± 5°F.

As a minimum the plant testing laboratory shall have:

1. Adequate artificial lighting.

2. Electrical outlets sufficient in number and capacity for operating the required testing equipment and drying samples.

3. Two fire extinguishers, Underwriter's Laboratory approved.

4. Work benches for testing, minimum 2-1/2 feet by 10 feet.

5. Desk with two chairs.

6. Sanitary facilities convenient to testing laboratory.

7. Exhaust fan to outside air, minimum 12 inch blade diameter.

8. A direct telephone line and telephone including answering machine and FAX machine, operating 24-hours per day, seven days a week.

9. File cabinet with lock for Resident.

10. Sink with running water, attached drain board and drain.

11. Metal stand for holding washing sieves.

12. A Two element hot plate or other comparable heating device, with dial type thermostatic controls for drying aggregates.

13. Mechanical shaker and appropriate sieves (listed in 639.06) meeting the requirements of ASTM E11.

14. Superpave gyratory compactor.

15. Oven, thermostatically controlled, inside minimum one cubic foot.

16. Two volumetric specific gravity flasks, 500 CC.

17. Other necessary hand tools required for sampling and testing.

18. Library containing Contract Specification, latest ASTM Volumes 4.03 and 4.04, AASHTO Materials Parts I and II, and Asphalt Institute Publications MS-2 and SS-1.

19. Equipment for Maximum Theoretical Density meeting the requirements of AASHTO T209 and equipment for Bulk Spec. Gravity meeting the requirements of AASHTO T166.

20. Infra-red temperature measuring device for use at both plant and Project site.

21. Necessary equipment for extraction (wet sample) testing.

22. Diamond blade saw for trimming pavement cores.

23. Two ovens.

24. All equipment (scales, Superpave gyratory compactor, etc.) to have current calibrations and certifications.

Approval of the plant and testing laboratory by the Resident requires all the above facilities and equipment to be in good working order during pavement production, sampling and testing. Failure to provide any of the above shall be sufficient cause for disapproving the bituminous plant operations.

401.21 Method of Measurement

The Authority will measure Hot Mix Asphalt Pavement by the ton in accordance with Subsection 108.1, Measurement of Quantities for Payment.

This Subsection is amended by the following:

A reduction in payment will occur when the voids, asphalt content, and density are other than the limits specified below for 100 percent payment. The payment reduction for voids and PGAB content and density will be based upon each sublot (500 tons) of production as specified in Subsections 401.162, 401.163 and 401.164. The Contractor may request one retest for each failing sublot for core density only. The original core density and the recut core density shall be averaged together to determine payment for the sublot. No retest will be allowed for voids or asphalt content. The Contractor shall pay $100.00 for each additional core tested. Pavement restoration will not be measured separately for payment, but shall be incidental to the respective pay item.

Any lot resulting in zero payment shall be removed, disposed of and replaced at no additional cost to the Authority. Replacement pavement will be paid for based on the accepted and payment criteria specified herein.

CORE DENSITY VS. CORE THEORETICAL MAXIMUM DENSITY COMPACTION (SURFACE) 92.5-97 PERCENT	
PERCENT COMPACTION	**PERCENT PAYMENT**
92.5 - 97.0	100
91.5 - 92.4, 97.1 - 97.9	95
90.5 - 91.4, 98.0 - 98.9	90
89.5 - 90.4, 99.0 - 99.9	75
<89.5, > 99.9	0
Note: Percent compaction is the percentage of the field core density as compared to the Theoretical Maximum Density (TMD) of that core.	

AIR VOIDS – 2.5 – 5.5 PERCENT	
VOIDS	**PAYMENT PERCENT**
2.5 to 5.5	100
2.0 - 2.4, 5.6 - 6.1	95
1.5 – 1.9, 6.2 – 6.6	90
1.0 - 1.4, 6.7-7.1	75
<1.0, >7.1	0
Note: Voids are based on the average of the test specimens fabricated at the plant for each sublot (500 tons).	

Payment for PGAB content shall be based on the JMF aim with an allowable production tolerance of 0.4% except that test results which fall outside of the following ranges shall not be permitted

4.75 mm	6.0 – 7.5
9.5 mm	5.7 – 7.5
12.5 mm	5.2 – 6.4
19.0 mm	4.7 – 6.1

4.75 mm PGAB CONTENT	
% PGAB	% PAYMENT
JMF Aim ± 0.4	100
JMF Aim + 0.5 , - 0.5 , < 6.00	95
JMF Aim + 0.6 , - 0.6 , < 5.90	85
JMF Aim + 0.7 , - 0.7 , < 5.80	75
JMF Aim + 0.8 , - 0.8 , ≦ 5.70, > 7.50	50
Note: PGAB content is based on samples tested at the plant for each 500 Ton sublot	

9.5 mm PGAB CONTENT	
% PGAB	% PAYMENT
JMF Aim ± 0.4	100
JMF Aim + 0.5 , - 0.5 , < 5.7	95
JMF Aim + 0.6 , - 0.6 , < 5.6	85
JMF Aim + 0.7 , - 0.7 , < 5.5	75
JMF Aim + 0.8 , - 0.8 , ≦ 5.4, > 7.5	50
Note: PGAB content is based on samples tested at the plant for each 500 Ton sublot	

12.5 mm PGAB CONTENT	
% PGAB	% PAYMENT
JMF Aim ± 0.4	100
JMF Aim + 0.5 , - 0.5 , < 5.1	95
JMF Aim + 0.6 , - 0.6 , < 5.0	85
JMF Aim + 0.7 , - 0.7 , < 4.9	75
JMF Aim + 0.8 , - 0.8 , ≦ 4.8, > 6.4	50
Note: PGAB content is based on samples tested at the plant for each 500 Ton sublot	

19.0 mm PGAB CONTENT	
% PGAB	% PAYMENT
JMF Aim ± 0.4	100
JMF Aim + 0.5 , - 0.5 , < 4.6	95
JMF Aim + 0.6 , - 0.6 , < 4.5	85
JMF Aim + 0.7 , - 0.7 , < 4.4	75
JMF Aim + 0.8 , - 0.8 , ≦ 4.3, > 6.1	50
Note: PGAB content is based on samples tested at the plant for each 500 Ton sublot	

As an example of payment reduction, if a sublot of 500 tons of 12.5mm was tested and found to have 96 percent TMD compaction, 5.8 percent air voids and asphalt content of 5.19 percent, the payment reduction would be as follows:

500 tons x 1.00	= 500 tons payment	=	0 tons reduction (compaction)
500 tons x 0.95	= 475 tons payment	=	25 tons reduction (voids)
500 tons x 0.95	= 475 tons payment	=	25 tons reduction (asphalt content)

Payment = 500 tons - (0 + 25 + 25) = 450 tons.

401.22 Basis of Payment

The Authority will pay for the work, in place and accepted, in accordance with the applicable sections of this Section, for each type of HMA specified.

The Authority will pay for the work specified in Subsection 401.11, for the HMA used, except that cleaning objectionable material from the pavement and furnishing and applying bituminous material to joints and contact surfaces is incidental.

Payment for this work under the appropriate pay items shall be full compensation for all labor, equipment, materials, and incidentals necessary to meet all related Contract requirements, including design of the JMF, implementation of the QCP, obtaining core samples, transporting cores and samples, filling core holes, applying specified material to joints, and providing testing facilities and equipment.

SPECIAL PROVISION

SECTION 403

HOT BITUMINOUS PAVEMENTS

Desc. of Course	Grad. Design	Item Number	Bit Cont. % of Mix	Total Thick	No. Of Layers	Comp. Notes
			Bridge Decks Exit 45 Bridge			
Wearing	12.5 mm	403.2081	5.2 min to 6.40	1 1/2 in.	1	A, C, E, G, H, & J
			Bridge Decks Exit 46 Bridge			
Wearing	12.5 mm	403.2081	5.2 min to 6.40	2 in.	1	A, C, E, G, H, & J
			Mill, Fill, Overlay, Full Depth Ramp and Mainline			
Wearing	12.5 mm	403.2083	5.2 min. to 6.4	2 in.	1	A,B, C, E F, G, H & I
Base	19 mm	403.207	4.7 min to 6.10	9 in.	3	A, B, C, E F and G
Shim	4.75 mm	403.211	6.0 min to 7.50	½ in.	1	A, B, C, E, F, & G

COMPLEMENTARY NOTES

A. The required PGAB for Items 403.2083 will meet a **PG 64E-28** grading. Refer to provisions of 403.02 – General for HMA, for additional testing and documentation requirements. The required minimum PGAB for Items 403.207, 403.208, 403.211 shall be a **PG 64-28** grading.

B. A maximum of 15 percent RAP may be used in the Hot Mix Asphalt.

C. The MaineDOT will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 3 to < 10 million ESAL for mix placed under this Contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**.

D. A material transfer vehicle (transfer box) shall be used for the placement of Hot Mix Asphalt, 12.5 mm Nominal Maximum size, wearing surface, on both the northbound and southbound roadways including acceleration and deceleration lanes and all ramps.

E. No vehicular traffic or 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.

F. Tack coat shall be applied to all milled pavement at a rate of 0.03 G/SY prior to placing the surface course.

G. Joints shall conform to Subsection 401.17.

H. Tack coat shall be applied to the pavement at a rate of 0.03G/SY prior to placing the surface course. Tack coat is required between all lifts of pavement, or as directed by the Resident.

I. Asphalt cement shall conform to the provisions of 403.02 – Polymer Modified PGAB for HMA.

J. Bridge Decks: No RAP is allowed in the bridge mix design. An oscillating steel roller shall be used to compact all hot mix asphalts placed on bridge decks.

SPECIAL PROVISION

SECTION 403

HOT BITUMINOUS PAVEMENT

403.01 Description

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

403.02 General

The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. The Performance Graded Asphalt Binder (PGAB) shall be polymer modified as detailed in this special provision and shall conform to the requirements of AASHTO M 320. The required PGAB shall be a storage-stable, preblended, homogeneous, polymer modified asphalt binder that meets PG 64E-28 grading requirements in AASHTO MP-19.

Polymer-Modified

The RTFOT (AASHTO T 240) residue of the polymer modified PGAB shall be tested by the Contractor according to ASTM D 6084 and have a minimum elastic recovery value of 60% at a test temperature of 25 °C. The Contractor shall provide the Authority with documentation and test results from the asphalt binder provider showing that the polymer modified PGAB meets the requirements of this special provision. The base asphalt binder PGAB shall be unmodified and meet a **PG 58-28** to **PG 64-28** grading. The Authority may take an informational samples of the polymer modified PGAB at any time to evaluate its elastic recovery value.

403.03 Construction

All areas which have been milled or overlaid shall have a minimum 29 foot temporary ramp constructed at the milled or overlaid limits prior to opening the roadway to traffic. Temporary ramps shall be constructed using the same material as being placed on that day or as directed by the Resident. All temporary ramps are to be constructed on a sand joint. The Contractor shall be responsible for all repairs and maintenance required for the temporary ramps.

The Contractor shall be responsible for the layout of the longitudinal centerline between the travel lanes. The control points to establish this line will be furnished by the Authority.

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

403.04 Test Strip

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

403.05 Method of Measurement

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

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

Hot Mix Asphalt, 12.5 mm (Polymer pavement with (up to) 15% RAP, placed as a wearing surface will be measured under Item 403.2083 Hot Mix Asphalt, 12.5 mm (Polymer Modified) - RAP.

403.06 Basis of Payment

Hot Mix Asphalt, 12.5 mm (Polymer Modified) pavement with (up to) 15% RAP, placed as a wearing surface will be paid under Item 403.2083 Hot Mix Asphalt, 12.5 mm (Polymer Modified) – RAP.

The following pay items are added:

Pay Item		Pay Unit
403.2083	Hot Mix Asphalt, 12.5 mm (Polymer Modified) – RAP	Ton

SPECIAL PROVISION

SECTION 409

BITUMINOUS TACK COAT

409.02 Bituminous Material

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

Bituminous material shall conform to the Specifications for Emulsified Asphalt RS-1, 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-brooming or scraping, or a combination of both. Small areas otherwise inaccessible may be broomed with hand brooms. The tack coat shall be applied only when the existing surface is dry.

409.08 Method of Measurement

The following paragraphs are added:

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

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

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

409.09 Basis of Payment

The following pay items are added:

Pay Item		Pay Unit
409.15	Bituminous Tack Coat – Applied	Gallon
409.151	Bituminous Tack Coat – Applied, Bridge	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 470

BERM DROPOFF CORRECTION

(Grindings)

470.01 Description

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

470.02 Bituminous Materials

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

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

470.03 Method of Construction

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

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

470.04 Method of Measurement

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

470.05 Basis of Payment

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

Payment will be made under:

Pay Item		Pay Unit
470.08	Berm Dropoff Correction – Grindings	Ton

SPECIAL PROVISION

SECTION 502

STRUCTURAL CONCRETE

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

502.01 Description

This work shall consist of furnishing and placing Portland Cement Concrete for structures and incidental construction in accordance with these Specifications and in conformity with the lines, grades and dimensions shown on the Plans or established, or for placing concrete fill or underwater seals for foundations where called for on the Plans.

502.02 Classification

The Portland Cement Concrete shall be the class indicated on the Plans.

502.03 Materials

Materials shall meet the requirements specified in the following Subsections of Division 700, Materials:

Portland cement and Portland-pozzolan cement	701.01
Water	701.02
Air-Entraining Admixtures	701.03
Water Reducing Admixtures	701.04
High Range, Water Reducing, Admixture	701.0401
Set-retarding Admixtures	701.05
Curing Materials	701.06
Waterstops	701.07
Smoothed Surfaced Asphalt Roll Roofing (formerly heavy roofing felt)	701.08
Fly Ash	701.10
Calcium Nitrite Solution	701.11
Silica Fume	701.12
Ground Granulated Blast Furnace Slag	701.13
Fine Aggregate for Concrete	703.01
Coarse Aggregate for Concrete	703.02
Alkali Silica Reactive Aggregates	703.0201
Preformed Expansion Joint Filler	705.01
Bridge Drains	711.04

In Subsection 701.10, Fly Ash, the "Loss on Ignition (LOI)" paragraph is deleted and replaced with the following:

Loss on Ignition (LOI) - Shall be 6.0 percent maximum per AASHTO T105 (ASTM C311) provided the Fly Ash has a documented history of not adversely effecting the concrete air content, otherwise the LOI shall be 3.0 percent maximum per AASHTO T105 (ASTM C311).

502.04 Shipping and Storage

Cement may be shipped in bags or in bulk from pre-tested and approved silos at the cement mill. The cement shall be completely protected from rain and moisture. Any cement damaged by moisture or which fails to meet any of the specified requirements shall be rejected and removed from the site. If requested by the Resident, cement stored for a period longer than 60 days shall be retested before being used in the work.

Bags of cement in shipment or storage shall not be piled more that eight (8) bags high. Bags of cement which for any reason have become partially set or which contain lumps of caked cement shall be rejected. Shipments of cement in bags shall be separately stored in a manner as to provide easy access for identification and inspection of each shipment.

Fly ash and slag shall be stored in weather tight silos approved by the Resident. All silos shall be completely empty and clean before material is deposited therein, unless the silo already contains material of the same type and properties.

Fly ash or slag remaining in bulk storage for a period greater than one (1) year after completion of tests will be resampled and retested by the supplier before shipment or use.

Handling, shipping and stockpiling of aggregates shall be done in such a way as to minimize segregation and breakage.

Fine aggregate and each size of coarse aggregate shall be stored in completely separate stockpiles on prepared bases constructed of the same material as that to be stockpiled, with a minimum thickness of 300 mm [1 ft.]. The ground under the prepared bases shall be reasonably graded to drain away from the stockpile and shall be free of brush or other harmful vegetation. The base shall be left in place, undisturbed for the duration of the use of the stockpile. Prepared bases can be salvaged for reuse provided this material is reprocessed. Barge floors, wood, metal or other approved hard surfaces shall be considered acceptable alternates for the prepared bases described above.

502.041 Testing Equipment

The Contractor shall provide testing equipment and materials as specified below for use by the Resident or their representative exclusively. The equipment shall be available and acceptable to the Resident one (1) week prior to placing any concrete. All costs associated with providing and maintaining testing equipment shall be incidental to the work and no additional payment will be made.

The Resident will maintain the test equipment in reasonable condition. However, the Contractor shall replace any equipment that becomes unusable due to normal wear and tear or which is stolen or damaged from other than the Resident's neglect or mistreatment. All such replacement costs shall be incidental to the work and no additional payment will be made.

A. Pressure air meter meeting requirements of AASHTO T152 (Type B) and all accessory pay items required for use with the particular design of apparatus. This shall include one nine inch mason trowel, one metal scoop nine inches long *x* five inches wide, one tamping rod conforming to AASHTO T119, one rubber mallet as

described in AASHTO T152, one strike off bar (flat straight bar of steel). The air meter shall be functional and shall bear a current calibration certificate issued by a recognized testing laboratory. Current shall mean within the calendar year.

B. Two pocket dial thermometers 0˚F to 200˚F, one inch diameter dial, five inch pointed stem, unbreakable poly carbonate crystal, stainless steel case, stem and bezel. Accuracy required is one percent over entire range.

C. "Contractors" rubber tired wheelbarrow.

D. Two D-handle square end shovels 9-1/2 inches wide.

E. Two pair heavy duty, long cuff, rubber gloves.

F. Miscellaneous equipment: 16 oz. plastic squeeze bottle, five gallon bucket, scrub brush, paper towels, folding rule, and rubber syringe.

G. Small rod – one tamping rod conforming to AASHTO T277.

H. 10 foot straightedge as required by Resident.

502.05 Composition and Proportioning

Concrete shall be composed of a homogenous mixture Portland Cement, fly ash, or ground granulated blast furnace slag, fine aggregate, coarse aggregate, water and admixtures proportioned according to these Specifications and shall conform to the requirements of Table 1.

At least 45 days prior to placement of any concrete to be incorporated in the bridge or other concrete structure, the Contractor shall submit mix designs that meet the requirements of Table 1 along with the proposed sources of aggregates, cement, water and admixtures for each class of cement concrete specified. Sufficient material shall be obtained by the Authority's designated testing personnel at the proposed sources for verification of acceptability by test and for mix design. Materials failing to meet the specified requirements shall be rejected and new materials shall be resubmitted to the laboratory. The Authority's testing laboratory will determine the proportions of cement, aggregate, water, air entraining agents, and other admixtures of all specified and proposed concrete mixtures by means of trial design batches and tests using the consistencies, air content and other properties suitable for the work and in accordance with the latest applicable AASHTO or ASTM Standards and designations.

TABLE 1
MASTER LIMITS TABLE

Class of Concrete	Minimum Compressive Strength at 28 Days	Minimum Cementitious Content	Water Cement Ratio	Slump	Air Content	Maximum Coarse Aggregate Size (703.02)	Notes
	PSI	LB/CY		INCHES	%	INCHES	
A	4000	611	0.38±0.02	6 ± 2	6 ± 1	1	3, 4
AA	4000	658	0.38±0.02	3.5	5 to 7	3/4	1, 3
AAA	4500	658	0.38±0.02	6 ± 2	6 ± 1	3/4	3, 4
AAA – Deck	4500	658	0.42±0.02	6 ± 2	7.5 ± 1.5	3/4	3,4,6
AAA - Modified	4500	752	0.38±0.02	6 ± 2	6 ± 1.5	3/8	3,4
B	3000	517	0.40±0.02	6 ± 2	5 ± 1	1-1/2	1, 3
S	3500	635	0.38±0.02	6 ± 2	6 ± 1	1-1/2	1, 3
P	SEE PLANS	658	0.38±0.02	6 ± 2	5 ± 1	3/4	3, 4, 5
IS	3000	470	0.58	5 ± 1	3.0% Max	1-1/2	2, 3

NOTES:

1. All concrete shall contain either a normal water reducing admixture (Type A) or a high range water reducing admixture (HRWR) meeting the requirements of Subsection 701.0401. When a HRWR is used, a maximum of an 8.0” slump is allowed.

2. All concrete shall contain a non-chloride based, mid-range water reducing admixture (MRWR) meeting the requirements of ASTM C494.

3. All concrete shall contain a Portland Cement replacement. Portland Cement pre-blended with either fly ash or ground granulated blast-furnace slag may be used when accepted by the Resident.

   Due to the lower heat of hydration effect of high cement replacements, the Contractor is responsible for selecting a replacement level which is appropriate for the time of year if cold weather conditions are anticipated.

4. All concrete shall contain a high range water reducing admixture (HRWR) meeting the requirements of Subsection 701.0401. A minimum of one-half the design dosage of the HRWR should be added at the plant to insure thorough mixing. The HRWR should be added in strict accordance with the manufacturer’s guidelines and limitations. The HRWR Guidelines need to be submitted to the Resident for review and approval. The concrete will not be slump tested by the Authority prior to the addition of the HRWR. The supplier shall provide the aggregate moisture adjustment and plant-added water on the delivery tickets. If additional slump is required in the field, it will be achieved with

additional HRWR (in accordance with the manufacturer's recommendations and limitations).

5. A calcium nitrate corrosion inhibitor meeting the requirements of ASTM 494 Type C shall be added at a rate of not less than three gallons per cubic yard.

6. Deck concrete (Class AAA – Deck) is a new mix design and trial batching will be required per specifications. The mix design may gain strength slower than other MTA mix designs, and the contractor shall plan construction operation accordingly.

The mix design submitted by the Contractor shall include the following information:

A. Description of individual coarse aggregate stockpiles, original source, bulk specific gravity, absorption, gradation and alkali silica reactivity test results. A combined coarse aggregate blended gradation shall be provided.

B. Description of fine aggregate, original source, bulk specific gravity, absorption, colorimetric, gradation and Fineness Modulus (F.M.).

C. Description and amount of cement and cement replacement material.

D. Target water cement ratio.

E. Target water content by volume.

F. Target strength.

G. Target air content, slump, and concrete temperature.

H. Target concrete unit weight.

I. Type and dosages of air entraining and chemical admixtures.

Approval by the Authority will be contingent upon the ability of the mix design proportions to meet the concrete strength requirement and other factors that affect durability. Cement replacements are included in the cementitious material.

Concrete mix designs shall contain 15 to 30 percent fly ash replacement by weight, or 25 to 50 percent slag cement replacement by weight. Deck concrete mix designs shall have a maximum of 30% slag cement replacement by weight.

Cast-in-place concrete shall contain no more than 660 lb/cy of cementitious material.

All concrete mixes must be designed in accordance with the criteria of this Section. The design proportions with the fine aggregates designated as a percent of the total aggregate must be stated in terms of aggregate in a saturated, surface dry condition and the batch weights will be adjusted by the Contractor for the actual moisture of the aggregate at the time of use.

Based on the design parameters, including minimum cement factor and maximum water cement ratio, a curve representing the relation between the water/cement ratio and the average

seven day and 28 day compressive, or earlier strength at which the concrete is to receive its full working load, will be established by the Authority's laboratory for a range of values including all of the compressive strengths required. The curves shall be established by at least three points, each point representing average values from at least three test specimens. Amount of water used in the concrete, as determined from the curve, shall correspond to the required average strength called for in the Specifications in accordance with the ACI 301-89, Table for Laboratory Mix Design Data – Required Average Compressive Strength below. When required, the consistency of the basic mix selected shall be adjusted by the use of high range water reducers.

LABORATORY MIX DESIGN DATA
REQUIRED AVERAGE COMPRESSIVE STRENGTH

SPECIFIED f'_c	REQUIRED f'_{cr}
LESS THAN 3000 PSI	f'_c + 1,000 PSI
3000 PSI TO 5000 PSI	f'_c + 1,200 PSI
OVER 5000 PSI	f'_c + 1,400 PSI
The curves shall be established by at least three (3) points, each point representing the average values from at least three (3) test specimens for each age of seven (7) and twenty-eight (28) days. Laboratory tests are valid for ninety (90) days.	

The laboratory adjusted mix design will then be forwarded to the Contractor for his use. No change in the source or character of the mix ingredients may be made without notice to the Resident, and no new mix ingredients shall be used until the Resident has approved such ingredients and new mix proportions, if they change. Additional testing, if required, shall be paid for by the Contractor.

502.0501 Quality Control

The Contactor shall control the quality of the concrete through testing, inspection and quality control practices which shall be sufficient to assure a product meeting the Contract requirements.

Concrete sampling for QC shall be taken at the discharge point with pumped concrete sampling taken at the discharge end of the pump line.

For each truckload of concrete, the Contractor shall provide a Certificate of Compliance to the Authority at the time of the load placement. The Certificate of Compliance shall be a form acceptable to the Authority and shall include the following:

- Contract Name & Number
- Bridge Name
- Manufacturing Plant (Batching Facility)
- Name of Contractor (Prime Contractor)
- Date
- Time Batched/Time Discharged
- Truck No.

- Quantity (Quantity Batched this Load)
- Type of Concrete by Class and Producer Design Mix No.
- Cement Brand or Type, and Shipment Certification No.
- Temperature of Concrete at Discharge
- Target Weights per Cubic Yard and Actual Batched Weights for:
    1. Cement
    2. Pozzolanic additives, including fly ash, slag cement, and microsilica
    3. Coarse concrete aggregate
    4. Fine concrete aggregate
    5. Water (including free moisture in aggregates and water added at the Project)
    6. Admixtures brand and quantity (fl. oz./cubic yard)
        - Air-entraining admixture
        - Water reducing admixture
        - Other admixtures
- Placement Location

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    2. Pozzolanic additives, including fly ash, slag cement, and microsilica
    3. Coarse concrete aggregate
    4. Fine concrete aggregate
    5. Water (including free moisture in aggregates and water added at the Project)
    6. Admixtures brand and quantity (fl. oz./cubic yard)

- Air-entraining admixture
- Water reducing admixture
- Other admixtures

- Placement Location

502.0502 Quality Assurance

The Authority will determine the acceptability of the concrete through a quality assurance program and field measurement of surface tolerance, alignment and trueness, plumb and batter, and finish.

The Authority will take verification tests at times deemed appropriate by the Resident. Verification tests will include compressive strength, air content and permeability.

Concrete sampling for verification tests will be taken at the discharge point, with pumped concrete sampling taken at the discharge end of the pump line.

Compressive strength test will be completed by the Authority in accordance with AASHTO T22 at 28 days except that no slump will be taken. The average of two cylinders will be used to determine compressive strength.

Testing for entrained air in concrete, at the rate of one test per load, shall be in accordance with AASHTO T152.

Determination of the concrete cover over reinforcing steel for structural concrete shall be made prior to concrete being placed in the forms. Bar supports, chairs, slab bolsters, and side form spacers shall meet the requirements of CRSI Chapter 3, Section 2.5 Class 1, Section 2.6 Class 1A or Section 4. All supports shall meet the requirements for type and spacing as stated in the Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice, Chapter 3. Concrete will not be placed until the placing of the reinforcing steel and supports have been approved by the Resident. If the Contractor fails to secure Authority approval prior to placement, the Contractor's failure shall be cause for removal and replacement at the Contractor's expense. The Contractor shall notify the Resident, at least 48-hours prior to the placement, when the reinforcing steel will be ready for checking. Sufficient time must be allowed for the checking process and any needed repairs.

Rejection by Resident - For material not meeting Project Specifications, the Authority at its sole discretion will:

A. Require the Contractor to remove and replace the entire affected placement with concrete meeting the Contract requirements at no additional expense to the Authority; or,

B. Accept the material at a reduced payment as determined by the Authority.

Surface Tolerance, Alignment and Trueness, Plumb and Batter, and Finish - The Resident will measure each of these properties as follows:

A. Surface Tolerance - Exposed horizontal and sloping portions of the substructure, superstructure slabs, wearing surface, sidewalks, parapets, barriers, and wingwalls will be measured at randomly generated locations with a 10 foot straightedge once per 100 ft^2. Measurements beyond tolerances given in Table 5, Subsection 502.14(E) will be cause for removal or pay adjustment and potential corrective action as determined by the Resident. The Contractor shall furnish the 10 foot straightedge. At the Resident's discretion, measurements may be taken with a lightweight profiler. When the Resident uses the lightweight profiler to measure tolerance, and the International Ride Index (IRI) is between 250 and 300 in./mile for any one placement, a pay adjustment will be made. When tolerances exceed 300 in./mile, there will be cause for removal or a pay adjustment and potential corrective action.

B. Alignment and Trueness - Alignment and trueness may be measured by the Resident longitudinally along any vertical surface of any portion of the structure and shall not exceed a deviation of 1/4 inch in three feet for structures up to 30 feet in length. Structures in excess of 30 feet in length will be subject to a maximum tolerance of two inches. Measurements exceeding these tolerances will be cause for removal or pay adjustment and potential corrective action as determined by the Resident.

C. Plumb and Batter - The Resident will measure all columns and other vertical surfaces that will remain exposed to determine actual plumbness and batter. Measurements will be taken subsequent to every placement. Vertical faces of columns will be measured at a minimum of two faces at right angles to each other. Other vertical surfaces will be measured once every 15 feet along the face of longitudinal wall. All measurements will be made on a per placement basis and will be subject to a tolerance of 1/4 inch in 10 feet. Measurements between 1/4 inch and 1/2 inch in 10 feet will result in pay adjustments. Measurements beyond 1/2 inch in 10 feet will be cause for removal or pay adjustment and potential corrective action as determined by the Resident.

D. Finish - The Resident will measure and determine the areas to be repaired in accordance with Subsections 502.10(d), 502.13, and 502.14(e) for each placement. Areas to be repaired will be measured as a percentage of the total surface area of the placement. Those areas to be repaired that are between zero and five percent of the total surface area of the placement will result in no pay adjustments. Areas to be repaired that are between five percent and 10 percent will result in pay adjustments. Areas greater than 10 percent of the total surface area of the placement will be cause for removal or pay adjustment and corrective action as determined by the Resident.

Appropriate pay adjustments, as described in Subsection 502.194, will be made for any or all of the properties described above that do not meet Specification requirements.

502.0505 Resolution of Disputed Acceptance Test Results

The Contractor shall work cooperatively with the Resident in maintaining Control Charts in order to identify potential issues with any test results and take appropriate actions to address these issues before they become disputed issues. Circumstances may arise where the Authority's test results indicate that a material is unacceptable and removal is warranted. If the material is marginally acceptable, it may remain in place and be paid for at a reduced rate determined by the Authority. This Subsection provides recourse for the Contractor to contest the Authority's QA test results as follows, at no additional cost to the Authority:

A. Compressive Strength - The Contractor shall take appropriate corrective measures when the Resident advises the Contractor that the average of three consecutive compressive strength test results fall to less than 150 psi above the specified strength, or any single test falls more than 200 psi below the specified strength. The Contractor shall make corrective changes in materials, mix proportions, or in the concrete manufacturing procedure before additional concrete of the same class is placed.

There may be situations where there is the possibility that an underlying structural element could be built-upon before test results for the underlying element have been reported, based upon the normal frequency of testing. In these instances, it is in the Contractor's best interest to perform additional testing that will provide indications that the concrete will meet the requirements of the applicable Specifications, prior to continuing to build upon this underlying element. In the extreme case where an underlying structural element has been built-upon before test results for the underlying element have been reported, the above mentioned safeguards of tracking and additional testing have failed and the final test results for the concrete of the underlying element indicate that removal is warranted and the Contractor's QC results do not confirm the Authority's test results, the following procedure concerning compressive strength may be undertaken by the Contractor and witnessed by the Authority, within 36 days of the placement date:

1. Drilled core specimens shall be retrieved from the concrete in question in accordance with the requirements of ASTM C42/C42M, Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete. The core strength acceptance and evaluation criteria included in ACI 318 shall not apply.

2. Three drilled core specimens shall be taken from each sublot in question, from randomly selected locations to be representative to the entire volume of the sublot. The Resident and the Contractor's representative shall agree on the sample locations prior to drilling. The specimens shall have a minimum diameter of four inches and a minimum length of eight inches.

3. The concrete cores shall be taken directly from the Project to the Authority's designated independent testing laboratory where they will be tested. The cores shall be protected from drying and damage during transport. The Contractor shall make arrangements with the Authority's designated independent testing laboratory for testing prior to beginning the coring process.

4. Core test results will be evaluated by the Authority with the understanding that the strength of drilled cores is, in general, 85 percent of that of corresponding standard-cured molded cylinders. Therefore, the test results of the three cored cylinders shall be averaged, and then divided by a factor of 0.85. The resulting compressive strength shall be used by the Authority in the final determination of the acceptability of the material in question and shall replace the contested test result in computing pay adjustments for the sublot in question. If coring is not done with the 36 day time limit, the Authority will not allow dispute testing of the sublot.

5. If the Authority concludes that the strength of the structural element in question is adequate as a result of the above procedure, then the concrete shall remain in place

and will be paid for at a reduced rate, as determined by the Authority. If the Authority concludes that the strength of the structural element in question is unsatisfactory as a result of the above procedure, then the Authority will direct the Contractor to take appropriate actions, as determined by the Authority, and at no additional cost to the Authority.

B. Entrained Air – In order to dispute the Authority's test results, the Contractor must test material from the same sample as the Authority. If the difference between the Authority's and the Contractor's air tests is equal to or greater than 0.8 percent, then the material shall be retested by both parties. If the difference between the retests is equal to or greater than 0.8 percent, the concrete placement will be suspended immediately, and 1) both air meters shall be calibrated immediately, or 2) the Contractor shall immediately replace both air meters. Once it is demonstrated the QC and Acceptance air meters are in agreement with 0.8 percent, the concrete placement may resume.

502.06 Batching

Measuring and batching shall be performed at an approved batching plant, unless otherwise approved by the Resident. The batching plant shall meet the requirements of AASHTO M-157.

502.0701 Delivery

A. Delivery and discharge of the concrete from the mixer shall be completed within a maximum of 1-1/2-hours from the time the cement is added to the aggregate, except that in hot weather when the concrete mix temperature exceeds 70˚F or under other conditions contributing to quick stiffening of the concrete, delivery and discharge from the mixer shall be completed within one hour. When approved by the Resident, the use of a retarding admixture (Type D) may be used for increasing the one hour discharge time to 1-1/2-hours, provided concrete temperatures are kept below 80˚F and conditions contributing to quick stiffening of the concrete are not present.

B. Concrete, which has been condemned for any reason, shall be removed immediately from the jobsite and disposed of properly.

C. Concrete temperature before placement shall not exceed 85˚F.

D. All concrete trucks must have working revolution counters, and be set to zero at the start of mixing. Any truck without a counter will be rejected from the job unless the Contractor can assure the Resident that adequate mixing has been achieved.

502.08 Cold Weather Concrete

All frost, ice, and snow shall be removed from all material that will be in contact with fresh concrete.

Unless authorized by the Resident, the mixing and placing of concrete shall be discontinued when the atmospheric temperature is below 40˚F in the shade and dropping and shall not be resumed until the atmospheric temperature is as high as 35˚F in the shade and rising. If authorization is granted for the mixing and placing of concrete under atmospheric conditions

different from those specified above, the water shall be heated to a temperature not exceeding 180˚F. When either the aggregate or water is heated to above 120˚F, they are to be combined first in the mixer before the cement is added. If the atmospheric temperature is below 25˚F, the aggregate shall also be heated when approved by the Resident. Materials containing frost or lumps of frozen material shall not be used. Stockpiled aggregates may be heated by the use of dry heat or steam. Aggregates shall not be heated directly by gas or oil flame or on sheet metal over a fire. When aggregates are heated in bins, steam coil or water coil heating or other methods that will not be detrimental to the aggregates may be used. The heating apparatus shall be capable of heating the mass uniformly and preventing the occurrence of spots of overheated material. The temperature of the mixed concrete shall be between the minimum values shown in Table 4 and 70˚F when it is placed in the forms. Salt or other chemicals shall not be added to the concrete for any reason whatsoever, except by written permission of the Resident.

TABLE 4
COLD WEATHER TEMPERATURE TABLE

MINIMUM FORM DIMENSION SIZE

Less than 300 mm (12 in.)	300 – 900 mm (12 - 36 in.)	900 – 1800 mm (36 - 72 in.)	Greater than 1800 mm (72 in.)
13˚C (55˚F)	10˚C (50˚F)	7˚C (45˚F)	5˚C (40˚F)
MINIMUM CONCRETE TEMPERATURE AS PLACED			

When permitted by the Resident, footings may be protected by completely submerging them by admitting water inside the cofferdam. Until submersion takes place, the temperature of the concrete and its surface shall be controlled as specified above. Submersion shall proceed slowly and the temperature of the air or water shall be maintained sufficient to prevent ice from forming within the cofferdam for a period of seven (7) days after the placing of the concrete.

When depositing concrete under water, there shall be no ice inside the cofferdam.

Permission given to place concrete under the conditions mentioned above shall not relieve the Contractor of responsibility for obtaining satisfactory results. The Contractor shall be wholly responsible for the protection of concrete during cold weather operations and any concrete injured by frost action or overheating shall be removed and replaced at the Contractor's expense.

502.10 Forms and False Work

A. Construction of Forms - All forms shall be well built, substantial and unyielding, securely braced, strutted and tied to present motion and distortion while concrete is being placed in them. The forms shall be strong enough to safely support the weight of the concrete and all superimposed loads (such as runways, concrete buggy loads, workers, scaffolding, etc.) placed upon them.

Forms shall be built to conform to the dimensions, location, contours and details shown on the Plans. The faces of forms against which the concrete is to be placed shall be dressed smooth and uniform and shall be free from winds, twists, buckles and other irregularities.

Stay-in-place forms of any type will not be permitted for any part of the slab structures, unless otherwise indicated on the Plans.

The placing of concrete in excavated pits and trenches without forms will be permitted only in exceptional cases and then at the discretion of the Resident.

All corners within the forms shall be fitted with chamfer strips mitered at their intersections, except that chamfer strips will not be required as follows: (1) on corners of slab blocking of interior steel beams and the inside of exterior steel beams; (2) on corners constructed transversely at the underside of the slab of superstructures which consist of a concrete slab on steel beams; (3) on footings not exposed to view; and (4) on all structures when more than two feet below the final finished ground line.

Chamfer strips shall have a width across the diagonal face between 1/2 inch and 3/4 inch. The size to be adopted for a given portion of the work shall depend upon the general dimensions. Except where special size chamfer strips are shown on the Plans, the size of chamfer strips shall be uniform on individual projects. Provisions shall be made for the chamfering of the top edges of abutment bridge seats and wing walls, tops of piers and retaining walls, tops of through girders, roadway curbs, etc., by nailing chamfer strips inside the forms. Unless otherwise provided, all chamfer strips shall produce plain flat surfaces on the concrete.

The forms for beams, girders and spandrel arches shall be so constructed as to permit the sides to be removed without disturbing the supports.

All foreign matter within the forms shall be removed before depositing concrete in them.

In all cases where metal anchorages or ties within or through the face forms are required to hold the forms in their correct position, such anchorages or ties shall be of ample strength and shall be constructed so that the metal work can be removed to a depth of not less than one inch from the face and back surfaces of the concrete without damaging such surfaces.

Elevations will be taken on the top flanges of structural steel beams and girders for the purpose of determining the depth of blocking necessary for the construction of the forms for the concrete slab, after the following conditions have been satisfied:

1. The satisfactory erection of the superstructure structural steel beams or girders, including any required flooring beams and stringers, unless an alternative plan is submitted by the Contractor and approved by the Authority.

2. All bolt tightening operations must be complete.

3. No foreign loads supported by the beams or girders are present.

The Contractor shall submit working drawings for approval of the proposed forms supporting the superstructure slabs, and of the proposed forms and false work supporting the overhanging portion of the superstructure slab in accordance with Subsection 105.7. The working drawings shall show the size, spacing and location of the supporting members, and the proposed loads and weight of the concrete forms to be carried by the members. The proposed superstructure slab form and false work systems' computations, plans, and working drawings shall be designed and sealed by the Contractor's Professional Engineer, who must be registered in the State of Maine. This Professional Engineer may be directly employed or otherwise retained by the Contractor.

In the construction of forms and false work for the portion of superstructure slabs overhanging the exterior members of beam and girder spans, forms and supporting devices resulting in point loadings on the exterior members shall not be used. Loads resulting from supporting devices shall be distributed directly to the flanges by means of brackets or braces.

All forms shall be inspected and approved by the Professional Engineer responsible for the design of the form and false work systems before the placing of any concrete within them. The Professional Engineer shall, after inspection, provide a sealed certification to the Resident that the systems were erected in conformance with the Professional Engineer's plans and design details.

B. Surface Treatment of Forms - The inside surfaces of forms shall be uniformly coated with form oil or other approved surface treatment.

Form surfaces shall be treated before placing the reinforcing steel.

C. Construction of False Work - All false work used for supporting reinforced concrete superstructures shall be composed of members having ample structural sections to resist all loads imposed upon them, with deformations less than span length / 360.

When the vertical members of false work consist of piles or when framed or other false work is supported upon piles, the piles shall be driven to secure a safe load resistance.

When false work is supported upon mud sills, the foundation pressures resulting from the imposed loads upon the mud sills (false work, forms, fresh concrete, scaffolding, etc.) shall not exceed the capacity of the on-site soils.

All false work systems shall be designed to support all vertical loading and any differential settlement forces, all horizontal and longitudinal forces, and shall account for any temporary unbalanced loading due to the placement sequence of the concrete. Sufficient redundancy shall be designed into centering or false work systems so that the failure of any

member shall not cause a collapse. Design computations, layout drawings, and details of materials for the centering or false work systems shall be submitted to the Authority for its records. The erection of centering or false work systems shall be accomplished in strict conformance with the design and details. No concrete shall be placed without prior approval of the Resident.

False work systems adjacent to and/or over traveled ways shall additionally be designed to resist any vibration forces due to traffic and shall incorporate sufficient protection against impact by errant vehicles.

All false work system computations, plans and working drawings shall be designed and sealed by the Contractor's Professional Engineer, who must be registered in the State of Maine. This Professional Engineer may be directly employed or otherwise retained, by the Contractor. Prior to concrete placement, the Professional Engineer responsible for the design of the false work system shall, after false work inspection, provide a sealed certification to the Resident that the system was erected in conformance with the Professional Engineer's plans and design details.

False work shall be so constructed that the forms will have a camber, the amount depending upon the deflection anticipated in the design.

Forms supported upon false work shall be provided with a satisfactory means for their adjustment in the event of settlement or deformation of the false work due to overloading or other causes.

Provisions shall be made for the gradual lowering of false work and rendering the supported structure self-supporting.

D. Removal of Forms and False Work

1. Location, weather conditions, cementitious materials used and the character of the structure involved shall be considered in determining the time for the removal of forms and false work. Forms and false work shall not be removed until concrete cylinders cured with the structure establish that the concrete has developed 80 percent of design strength. The Contractor shall cast and break two cylinders per sublot and furnish the Resident with these test reports before removal of the forms and false work.

   When approved by the Resident, the vertical forms of footings, walls, columns and sides of beams and slabs may be removed 48-hours after completion of placement of concrete, exclusive of the time the ambient air temperature is below 45˚F and provided the following conditions are met:

   Immediately after the forms are removed, defects in the concrete surface shall be repaired in accordance with Subsection 502.13 and the repaired area thoroughly dampened with water. The surfaces of exposed concrete shall be cured for the remainder of the seven day curing period by the application of a product listed on the Maine Department of Transportation Qualified Products List of curing compounds. The curing compound shall be applied continuously by an approved pressure spraying or distributing equipment at a rate necessary to obtain an even,

continuous membrane, meeting the manufacturer's recommendation but at a rate of not less than 1 gal/200 ft^2 of surface. Other methods of curing concrete may be used with the prior approval of the Resident.

2. Forms and false work, including blocks and bracing, shall not be removed without the consent of the Resident. The Resident's consent shall not relieve the Contractor of responsibility for the safety of the work. In no case shall any portion of the wood forms be left in the concrete. As the forms are removed, all projecting metal devices that have been used for holding the forms in place shall be removed in accordance with Subsection 502.10. The holes shall be filled as required in Subsection 502.13.

502.11 Placing Concrete

A. General – Concrete shall not be placed until forms and reinforcing steel have been checked and approved by the Resident. The forms shall be clean of all debris. The method and sequence of placing the concrete shall be approved before any concrete is placed.

All concrete shall be placed before it has taken its initial set and, in any case, as specified in Subsection 502.0701. Concrete shall be placed in horizontal layers in such a manner as to avoid separation and segregation. A sufficient number of workers for the proper handling, tamping and operation of vibrators shall be provided to compact each layer before the succeeding layer is placed and to prevent the formation of cold joints between layers. Care shall be taken to prevent mortar from spattering on structural steel, reinforcing steel and forms. Any concrete or mortar that becomes dried on the structural steel, reinforcing steel or forms shall be thoroughly cleaned off before the final covering with concrete. Following the placing of the concrete, all exposed surfaces shall be thoroughly cleaned as required, with care not to injure any surfaces.

Concrete shall not come in direct contact with seawater during placing and for a period of 72- hours thereafter, except as follows:

1. Concrete seals that are located entirely below low tide.

2. Concrete footings constructed in the dry and located entirely below low tide or final ground elevation.

3. Concrete Fill placed under water.

Concrete in any section of a structure shall be placed in approximately horizontal layers of such thickness that the entire surface shall be covered by a succeeding layer before the underlying layer has taken its initial set. Layers shall not exceed 18 inches in thickness and be compacted to become an integral part of the layer below. Should the placement be unavoidably delayed long enough to allow the underlying layer to take initial set or produce a so-called "cold joint", the following steps shall be taken:

- An incomplete horizontal layer shall be bulk headed-off to produce a vertical joint.

- Horizontal joints shall be treated as required in this Subsection 502.11(F).

- Portland Cement concrete with a high range, water reducing admixture shall not be placed when the concrete mix temperature is below 40˚F or above 85˚F.

The concrete in superstructures shall be placed monolithically except when construction joints are shown on the Plans or are authorized in accordance with approved details submitted by the Contractor. If the concrete in the stems of T-beams is to be placed independent of the slab section, the construction joint shall be located at the under side of the slab and the bond between stem and slab shall be a mechanical one. The bond shall be produced by embedding two *x* four, four inch wooden blocks having a length approximately four inches less than the width of the stem and placed horizontally at right angles to the centerline of the beam in the top surface of the concrete immediately following the completion of the concrete placement. To provide for the uniform spacing of the blocks and their ready removal when the concrete has taken a set sufficient to hold its form, the blocks shall be firmly nailed upon a board at a distance of one foot center to center. The blocks shall be thoroughly oiled to facilitate their ready removal from the concrete.

In arch spans, the order of construction or sequence of the work, as shown on the Plans shall be followed in the placing of concrete.

In no case shall the work on any section or layer be stopped or temporarily discontinued within 18 inches below the top of any face, unless the Plans provide for a coping having a thickness less than 18 inches in which case, at the option of the Resident, the construction joint may be made at the under side of the coping. Concrete in columns shall be placed in one continuous operation, unless otherwise directed.

Fresh concrete, threatened with rain damage shall be protected by approved means. Sufficient material for covering the work expected to be done in one day shall be on hand at all times for emergency use. The covering shall be supported above the surface of the concrete.

Concrete Fill shall be placed at least to the pay limits shown on the Plans. Forms may be omitted at the Contractor's option. Vibration of concrete will not be required. The Contractor has the option of placing concrete fill under water or in the dry.

B. Chutes, Troughs, Pipes and Buckets - Sectional drop chutes or short chutes, troughs, pipes and buckets when used as aids in placing concrete, shall be arranged and used in such a manner that the ingredients of the concrete do not become separated or segregated. Wood and aluminum chutes, troughs, pipes or buckets shall not be used.

Dropping the concrete a distance of more than six feet, unless confined by closed chutes or pipe will not be permitted. The concrete shall be deposited at or as near as possible to its final position.

C. Vibrating - Mechanical, high frequency internal vibrators shall be used, operating within the concrete, for compacting the concrete in all structures and precast and cast-in-place piles, with the exception of concrete placed under water. The vibrators shall be an approved type with a frequency of 5,000 to 10,000 cycles per minute and shall be visibly capable of properly consolidating the designed mixture. A spare vibrator shall be available on the Project at all times during the placing of concrete.

Sufficient vibrators shall be used to consolidate the incoming concrete within five (5) minutes after placing. Vibrators shall neither be held against forms or reinforcing steel, nor shall they be used for flowing the concrete or spreading it into place. Over-vibrating shall not be allowed.

D. Dewatering Forms - All forms shall be dewatered before concrete is placed in them. Pumping will not be permitted from the inside of forms while concrete is being placed. Moving water shall not be permitted to be exposed to fresh concrete.

E. Depositing Concrete Under Water - No concrete shall be deposited under water except for cofferdam seals. Pumping will not be allowed within the cofferdam while concrete is being placed.

Seal concrete shall be placed carefully in a compact mass in its final position by means of a tremie or by other approved means and shall not be disturbed after being deposited. Bottom dump buckets will not be permitted. Special care must be exercised to maintain still water at the point of deposit. Seal concrete shall not be placed in running water. The method of depositing concrete shall be so regulated as to produce approximate horizontal surfaces. Each seal shall be placed in one continuous operation.

When a tremie is used, it shall consist of a tube not less than 10 inches in diameter. The means of supporting the tremie shall be such as to permit free movement of the discharge end over the entire seal and to permit its being lowered rapidly, when necessary to choke-off or retard flow. The tremie shall be filled by a method that will prevent washing of the concrete. The discharge end shall be completely submerged in concrete at all times and the tremie tube shall be kept full to the bottom of the hopper. The flow shall be regulated by raising or lowering the tremie.

When the horizontal area of the tremie seal is large, several tremie hoppers shall be provided and positioned strategically to allow easy deposit of concrete near the point where it is needed to avoid moving concrete horizontally through the water. The number of tremie hoppers and the work plan shall be approved by the Resident.

All laitance or other unsatisfactory material shall be removed from the surface of the seal before placing additional concrete. The surface shall be cleaned by scraping, chipping or other means that will not injure the concrete.

The placing and dewatering of seal concrete within cofferdams shall be in accordance with Section 511, Cofferdams.

F. Construction Joints - Construction joints shall be located where shown on the Plans or permitted by the Resident. When the concrete is in seawater, except concrete cores for stone masonry, no horizontal construction joint will be permitted between extreme low tide and extreme high tide elevations.

At horizontal construction joints, temporary gage strips having a minimum thickness of 1-1/2 inches shall be placed horizontally inside the forms along all exposed faces to give the joints straight lines. The joint shall be so constructed that the surface of the concrete will not be less than 1/4 inch above the bottom of the gage strip. Before placing fresh concrete, the

temporary gage strip shall be removed, the surfaces of construction joints shall be thoroughly cleaned, drenched with water until saturated and kept saturated until the new concrete is placed. Immediately prior to placing new concrete, the forms shall be drawn tight against the concrete already in place. Concrete in substructures shall be placed in such a manner that all horizontal joints will be horizontal and if possible, in locations such that they will not be exposed to view in the finished structure.

Where vertical construction joints are necessary, reinforcing bars shall extend across the joint in such a manner as to make the structure monolithic. Construction joints through paneled wing walls or other large surfaces which are to be treated architecturally will not be allowed except as shown on the Plans. All vertical construction joints in abutments and retaining walls shall contain water stops as shown on the Plans. The water stops shall be one continuous piece at each location.

All horizontal construction joints in abutments and retaining walls shall be constructed using a joint cover, as shown on the Plans.

Construction joints in the wearing surface shall be located where called for on the Plans. No other construction joints will be allowed.

All joints shall be formed in the manner detailed on the Plans. The forms shall not be treated with oil or any other bond breaking material that will adhere to the concrete.

Sealing slots shall be provided at all joints in the wearing surface that are located directly over a slab construction joint.

Construction joints in the wearing surface not receiving a sealing slot shall be brushed with a neat cement paste immediately prior to making the adjacent concrete placement.

After the concrete has been cured, sealing slots, when required, shall be sandblasted with approved equipment to remove all laitance and foreign material on the surfaces of the slots. The bottom of the sealing slots shall receive an approved bond breaker. The joint shall then be filled within 1/8 inch of the surface with a poured sealant conforming to the following requirements and in accordance with the manufacturer's recommendations. The joint sealant supplied shall be an approved two component, elastomeric sealant capable of 50 percent joint movement. Both components shall be in liquid form and the combining ratio of components by volume shall be as recommended by the manufacturer.

G. Concrete Wearing Surface and Structural Concrete Slabs on Precast Superstructures

When called for on the Plans, a separate concrete wearing surface or structural concrete slabs on precast superstructures shall be bonded to the supporting slab. No surface preparation of a new structural concrete slab shall begin before completion of the specified curing period.

When the supporting slab is composed of cast-in-place concrete, the Contractor shall scabble the entire surface of the structural concrete slab and then sandblast the entire structural concrete slab surface. When the supporting slab is comprised of precast units, the Contractor shall sandblast the entire deck surface.

The entire area of the deck surface and the faces of curb and barrier walls or other median devices, up to a height of one inch above the top elevation of the wearing surface or slab, shall be cleaned to a bright, clean appearance which is free from curing compound, laitance, dust, dirt, oil, grease, bituminous material, paint and all other foreign matter. Air lines shall be equipped with effective oil traps. The cleaning of an area of the deck shall be performed within the 24-hour period preceding placement of the wearing surface. The cleaning shall be performed by dry sand blasting or other methods approved by the Resident. All debris from the cleaning operation shall be thoroughly removed by compressed dry air from the cleaned surfaces and adjacent areas. The cleaned areas shall be protected against contamination before placement of the wearing surface. Contaminated areas shall be recleaned by dry sand blasting. Prepared, areas that have not received the wearing surface within 36-hours shall be recleaned.

All horizontal surfaces in contact with the wearing surface shall receive a coating of bonding grout or bonding agent listed on Maine Department of Transportation Qualified Products List of Bonding Agents. The vertical faces in contact with the wearing surface shall be broomed-up to the elevation of the top of the wearing surface with bonding grout or an approved bonding agent.

Stiff bristled street brooms shall be used to brush the grout onto the surface. The coating shall not exceed 1/8 inch in thickness. The rate of progress in applying grout shall be limited so that the grout does not become dry before it is covered with new concrete. During delays in the surfacing operations, should the surface of the grout indicate an extensive amount of drying, the grout shall be removed by methods approved by the Resident and the area should be regrouted.

The bonding grout shall have Portland Cement and fine aggregate proportioned 2 to 1 by volume. The fine aggregate from which the material larger than 1/8 inch has been removed shall be the same source as used in the concrete. The cement and fine aggregate shall be measured separately in appropriately sized containers. The fine aggregate shall be deposited in an approved mechanical mortar mixer before adding cement. Water shall be added in sufficient quantity to allow flow of the grout without segregation of the grout ingredients.

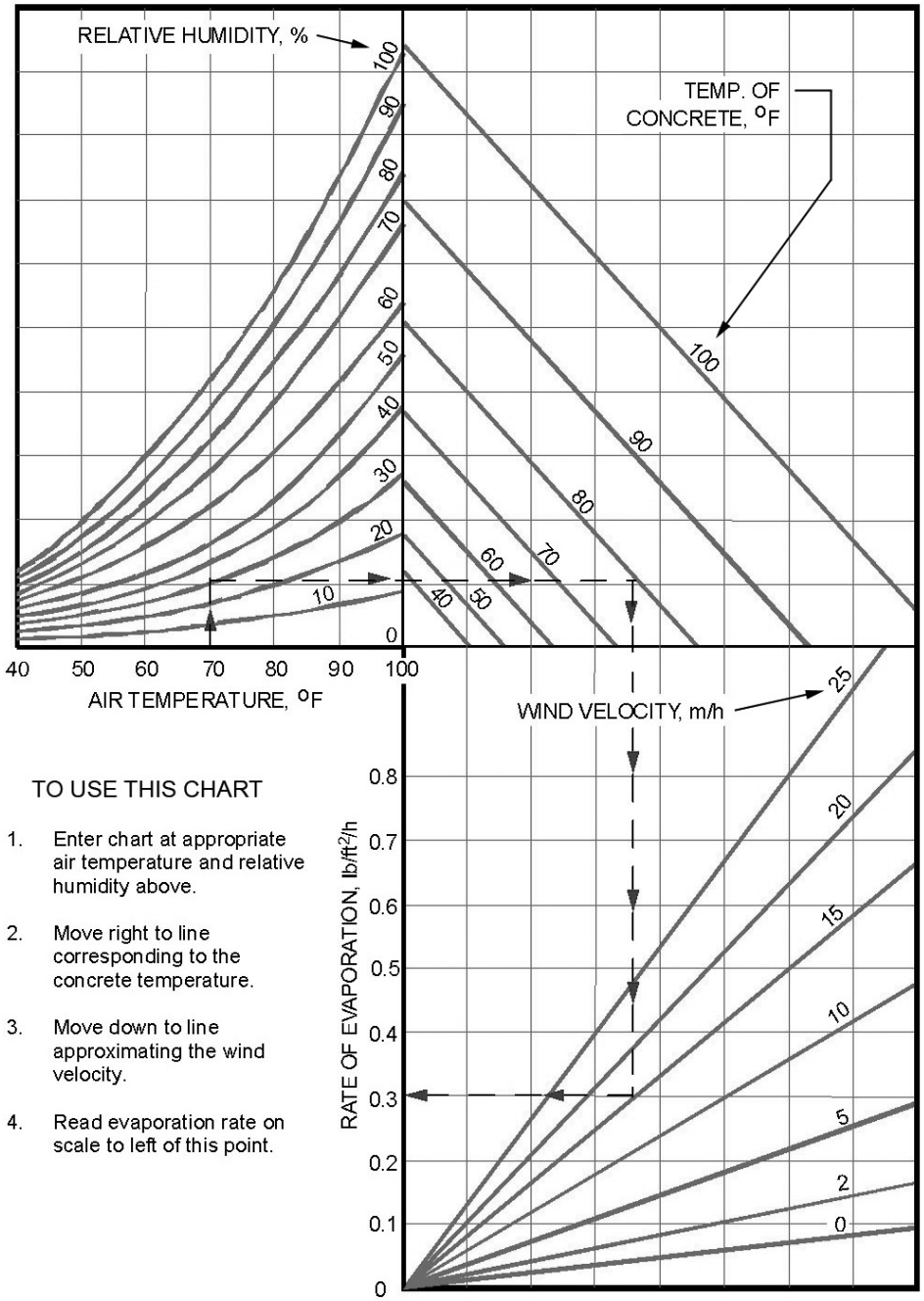
No water shall be added after initial mixing. The grout shall not be allowed to separate before placement. The cement to water contact time of the grout shall not exceed 30 minutes before it is placed. Any grout that has dried or become unworkable before application, as determined by the Resident, shall not be incorporated into the work. The use of retarding admixtures for increasing the discharge time limits will be allowed.

The Resident may approve the batching of bonding grout at an approved commercial concrete batch plant. In this case, mixing and delivery shall be in transit truck mixers. The bonding agent shall be one of the products listed on the Maine Department of Transportation's Qualified Products List of Bonding Agents and shall be applied in accordance with the manufacturer's recommendations.

No structural concrete slab structure, including but not necessarily limited to, concrete deck slabs, wearing surfaces, simple slab spans and slabs on precast superstructures, shall be commenced if the combination of ambient air temperature, relative humidity, wind speed, and plastic concrete temperature result in a surface moisture evaporation rate theoretically equal to or greater than 0.1 $lb/ft^2/hr.$ of exposed surface (refer to the Rate of Evaporation from Concrete Surface Chart). If the surface moisture evaporation rate rises to 0.15 $lb/ft^2/hr.$ of exposed

surface, the Contractor shall immediately implement remedial actions to reduce the surface moisture evaporation rate. The temperature of the concrete shall not exceed 75˚F at the time the concrete is placed in its final position. The maximum temperature of the surface on which concrete will be placed shall be 90˚F. The Contractor shall provide all equipment and perform all measurements and calculations in the presence of the Resident to determine the rate of evaporation.

RATE OF EVAPORATION FROM CONCRETE SURFACE NOMOGRAPH



502.12 Expansion and Contraction Joints

Expansion and contraction joints shall be located and constructed as shown on the Plans. Water stops shall be one continuous piece at each location. Joint cover, as shown on the Plans, shall be applied to all joints where water stops cannot physically be installed, as determined by the Resident.

502.13 Repairing Defects and Filling Form Tie Holes in Concrete Surfaces

After the forms are removed, all surface defects and holes left by the form ties shall be repaired.

All fins and irregular projections shall be removed from the following: Surfaces which are visible in the completed work; surfaces to be waterproofed; and the portion of vertical surfaces of substructure units which is below the final ground surface to a depth of 12 inches, not including underwater surfaces.

In patching surface defects, all coarse or fractured material shall be chipped away until a dense uniform surface, exposing solid coarse aggregate is obtained. Feathered edges shall be sawcut away to form faces having a minimum depth of one inch perpendicular to the surface. All surfaces of the cavity shall be saturated thoroughly with water, after which a thin layer of neat cement paste shall be applied. The cavity shall then be filled with thick, reasonably stiff mortar, not more than 30 minutes old, composed of material of the same type and quality and of the same proportions as that used in the concrete being repaired. The surface of this mortar shall be floated before initial set takes place and shall be neat in appearance. The patch shall be water cured for a period of five days.

If the removal of defective concrete materially impairs the soundness or strength of the structure, as determined by the Resident, the affected unit shall be removed and replaced by the Contractor at their expense.

The holes left by form ties, on the portions of substructure concrete that are to be permanently covered in the finished work, may be filled with an acceptable grade of plastic roofing cement. Holes in the bottom of slabs caused by supporting hangers need not be filled with the exception of voids that expose the top side of a girder top flange. Where holes in the deck or haunch are required to be filled, this work shall be completed using an approved high performance elastomeric sealant.

502.14 Finishing Concrete Surfaces

Neat cement paste, dry cement powder or the use of mortar for topping or plastering of concrete surfaces will not be permitted.

A. Float Finish - A float finish for horizontal surfaces shall be achieved by placing an excess of concrete in the form and removing or striking-off the excess with a template or screed, forcing the coarse aggregate below the surface. Creation of concave surfaces shall be avoided. After the concrete has been struck-off, the surface shall be thoroughly floated to the finished grade with a suitable floating tool. Aluminum and steel floats are not allowed.

Float finish, unless otherwise required, shall be given to all horizontal surfaces except those intended to carry vehicular traffic and those of curbs and sidewalks.

B. Structural Concrete Slab Structures – Include, but not limited to, structural concrete deck slabs, wearing surfaces, slabs on precast superstructures, top and bottom slabs of box culverts, approach 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.

Screed rail supports set in the concrete shall be so designed that they may be removed to at least 50 mm [2 in.] below the surface of the concrete. Voids created by removal of the upper part of the screed rail supports shall be filled with mortar having the same proportions of sand and cement as that of the slab or wearing surface. The mortar shall contain an approved additive in sufficient proportions to produce non-shrink or slightly expansive characteristics.

The rate of placing concrete shall be limited to that which can be finished without undue delay and shall not be placed more than 10 feet ahead of strike-off.

The Contractor shall furnish a minimum of two work bridges behind the finishing operation, capable of spanning the entire width of the deck and supporting at least a 500 lb. load without deflection to the concrete surface, to be supported on the screed rails. These working bridges shall be used by the Contractor for touch-up and curing cover application and shall be available for inspection purposes. When the overall length of the structure is 60 feet or less only one working bridge will be required.

An approved bridge deck finishing machine complying with the following requirements shall be used, except as otherwise specified, for finishing structural concrete slab structures. The finishing machine shall have the necessary adjustments, built in by the manufacturer, to produce the required cross section, line and grade. The supporting frame shall span the section being cast in a transverse direction without intermediate support. The finishing machine shall be self-propelled and capable of forward and reverse movement under positive control. Provisions shall be made for raising all screeds to clear the screeded surface for traveling in reverse. The screed device shall be provided with positive control of the vertical position.

The finishing machine shall be self-propelled with one or more oscillating screeds or one or more rotating cylinder screeds. An oscillating screed shall oscillate in a direction parallel to the centerline of the structure and travel in a transverse direction. A rotating cylinder screed shall rotate in a transverse direction while also traveling in the same direction. Either type of screed shall be operated transversely in overlapping strips in the longitudinal direction not to exceed six inches. One or more powered augers shall be operated in advance of the screed(s) and a drag (pan type) float shall follow the screed(s). For concrete placements less than six inches in depth, vibratory pan(s) having a minimum of 3000 vibrations/min shall be operated between the oscillating screed(s) or rotating cylinder screed(s) and the power auger(s). For concrete placed in excess of 3-1/2 inches but less than six inches thickness, hand- operated spud vibrators shall be used in addition to the machine vibratory pan(s).

The transversely operated rotating cylinder(s) of the bridge deck finishing machine shall be rotated such that the direction of the rotation of the cylinder(s) at the surface of the concrete is in accordance with the manufacturer's recommendations.

Concrete immediately in front of the power auger(s) of a bridge deck finishing machine shall be placed or cut to a depth no higher than the center of the rotating auger(s). The advance auger(s) shall strike-off the concrete to approximately 1/4 inch above the final grade. The concrete shall then be consolidated with the vibrating pan(s) and then finished to final grade.

A small handheld pan vibrator shall be required at edges and adjacent to joint bulkheads. In lieu of the handheld pan vibrator equipment, the Resident may approve small spud vibrator(s).

Lightweight, vibrating screeds may be used on slab structures which are more than 12 inches below the roadway finish grade or have a length of 30 feet or less, or where concrete placements are specified to be less than 16 feet in width and shall have the following features:

1. It shall be portable and easily moved, relocated, or adjusted by no more than four persons.
2. The power unit shall be operable without disturbing the screeded concrete.
3. It shall be self-propelled with controls that will allow a uniform rate of travel and by which the rate of travel can be increased, decreased or stopped.
4. It shall have controlled, uniform, variable frequency vibration, end to end.
5. It shall be fully adjustable for flats, crowns, or valleys.
6. The screed length shall be adjustable to accommodate the available work area.

When a lightweight vibrating screed is utilized, the concrete shall be placed or cut to no more than 1/2 inch above the finished grade in front of the front screed. The screed shall be operated such that at least three feet of concrete is in position in front of the screed.

Supporting slabs for bituminous wearing surfaces shall be finished in accordance with the recommendations of the waterproofing membrane manufacturer.

The texturing of concrete wearing surfaces shall be applied as approved by the Resident. The surface tolerance and texture shall be acceptable to the Resident, or the placement may be suspended until remedial action has been taken. The Resident may order the removal and replacement of material damaged by rainfall.

On all concrete wearing surfaces, a one feet wide margin shall be finished adjacent to curbs and permanent barriers with a magnesium float.

Immediately after screeding, floating and texturing, the surface of the concrete shall be tested for trueness, by the Contractor, with a 10 feet straightedge and all irregularities corrected at once in order to provide a final surface within the tolerance required in Table 5. The surface shall be checked both transversely and longitudinally. Any area that requires finishing to correct surface irregularities shall be retextured.

The straightedges shall be furnished and maintained by the Contractor. They shall be fitted with a handle and all parts shall be made of aluminum or other lightweight metal. The straightedges shall be made available for use by the Resident when requested.

In the event of a delay during a concrete placement, all concrete that cannot receive the final curing cover shall be covered with wet burlap.

No vehicles will be allowed, either directly or indirectly, on reinforcing steel before concrete placement.

C. Curb and Sidewalk Finish on Bridges - Curb and sidewalk finish is a float finish produced by using a short float moved in small circles to produce a shell-like pattern on the surface of the concrete. Alternately, sidewalks may receive a light broom finish perpendicular to the sidewalk.

When a concrete curb is monolithic with a sidewalk, a six inches wide smooth margin shall be made along the top of the curb with a magnesium float.

Unless shown on the Plans, the sidewalk area shall not be divided into sections by transverse grooves.

At all transverse construction and expansion joints, except where steel expansion dams are used, the edges of the joints, on the surface of the sidewalk, shall be finished with a sidewalk edging tool two inches in width with a 1/4 inch radius lip.

D. Form Surface Finish - The character of the materials used and the care with which forms are constructed and concrete placed shall be considered in determining the amount of rubbing required. If using first class form material, well-constructed forms and the exercise of special care, concrete surfaces are obtained that are satisfactory to the Resident, the Contractor may be relieved in part from the requirement of rubbing.

1. Ordinary Finish - An Ordinary Finish is defined as the finish left on a surface after the removal of the forms, the filling of all holes and the repairing of all defects. The surface shall be true and even, free from stone pockets and depressions or projections and of uniform texture. All formed concrete surfaces shall be given an ordinary finish unless otherwise specified.

   Repaired areas that do not meet the above requirements or areas that cannot be satisfactorily repaired to meet the requirements for ordinary finish shall be given a rubbed finish. When a rubbed finish is required on any part of a surface, the entire surface shall be given a rubbed finish.

2. Rubbed Finish - Rubbing of the concrete shall occur within seven (7) days of the concrete placement. If rubbing of the concrete is not complete within seven days, the Contractor must apply a latex bonding agent to the concrete as submitted and approved by the Resident.

   The concrete shall be thoroughly saturated with water immediately before starting this work. Sufficient time shall have elapsed before wetting-down to allow the mortar used in ordinary finish to become thoroughly set. Surfaces to be finished shall be rubbed with a medium coarse carborundum stone, using a small amount of mortar on its face. The mortar shall be composed of cement and fine sand mixed in proportions as used in the concrete being finished. Rubbing shall be continued until

all form marks, projections and irregularities have been removed, all voids filled and a uniform surface has been obtained. A thin layer of paste produced by this rubbing shall be left on the surfaces.

After all concrete above the surface being treated has been cast, the final finish shall be obtained by a second rubbing with a fine carborundum stone using only water. This rubbing shall be continued until the entire surface is of a smooth texture and uniform color.

After the final rubbing is completed and the surface has dried, it shall be rubbed lightly with clean and dry burlap to remove excess loose powder and shall be left free from all unsound patches, paste, powder and objectionable marks. This finish shall result in a surface of smooth texture and uniform color.

No surface finishing shall be done in freezing weather or when the concrete contains frost. In cold weather the preliminary rubbing necessary to remove the inert sand and cement materials and the surface irregularities may be done without the application of water to the concrete surfaces.

The following portions of concrete roadway grade separation structures shall be given a rubbed finish unless otherwise indicated in the Contract:

(a) Retaining walls and the breast and wing walls of abutments - face surfaces to 12 inches below the finished ground line.
(b) Piers - all vertical surfaces and the underside of overhanging portions of caps, except that for overpass structures, the piers beyond the outside limits of the roadway pavement, the vertical surfaces on the back which are not visible from the roadway or sidewalk will not require a rubbed finish.
(c) Parapets and end posts – all horizontal and face surfaces, excluding overhead surfaces, to 12 inches below the finish ground.

If, in the opinion of the Resident, the general appearance of a concrete structure, due to the excellence of workmanship, cannot be improved by a rubbed finish, this requirement may be waived.

E. Surface Finish - After the concrete has cured, the surface shall be tested with a 10 feet straightedge or a lightweight profiler.

The straightedge shall be furnished and maintained by the Contractor. It shall be fitted with a handle and all parts shall be made of aluminum or other lightweight metal. The straightedges shall be made available for use by the Resident when requested. The lightweight profiler will be furnished by the Authority.

Areas found to not comply with the tolerance of Table 5 shall be brought into conformity by methods proposed by the Contractor and approved by the Resident at no additional cost to the Authority.

TABLE 5
SURFACE TOLERANCE LIMITS

Type of Surface:	* Maximum deviation of surface in millimeters [in.] below 3 m [10 ft.] straightedge
Concrete Wearing Surface, Curbs, Sidewalks, and Barriers	3 mm [1/8 in.]
Concrete Slab Surfaces to be Covered by Membrane Waterproofing or Concrete Wearing Surfaces	6 mm [1/4 in]
Concrete Slab Surfaces with Integral Concrete Wearing Surface	6 mm [1/4 in.]
Concrete Slab Surfaces to be Covered By Earth or Gravel	10 mm [3/8 in.]
Concrete Surface of Box Culvert Bottom Slab	10 mm [3/8 in.]
Concrete Surface of Abutments, Piers, Pier Shafts, Footings, and Walls	10 mm [3/8 in.]

* Allowance shall be made for crown, camber and vertical curve.

502.15 Curing Concrete

All concrete surfaces shall be kept wet with clean, fresh water for a curing period of at least seven (7) days after concrete placing, with the exception of vertical surfaces as provided for in Subsection 501.10(D), Removal of Forms and False Work.

For concrete wearing surfaces and all concrete containing fly ash or slag, the temperature of the concrete shall be kept above 50˚F for the entire seven day period. All other concrete and its surfaces shall be kept above 50˚F for the first four days of the curing period and above 32˚F for the remainder of the period.

In the 24-hours following the end of the curing period, the temperature of the concrete shall be decreased on a gradual basis, not to exceed a total change of 40˚F for moderate sections, such as abutments and pier bents, and 30˚F for mass sections such as massive piers.

All slabs and wearing surfaces shall be water cured only and kept continuously wet for the entire curing period by covering with one of the following systems:

A. Two (2) layers of wet burlap;

B. Two (2) layers of wet cotton mats;

C. One (1) layer of wet burlap and either a polyethylene sheet or a polyethylene coated burlap blanket; or,

D. One (1) layer of wet cotton mats and either a polyethylene sheet or a polyethylene coated burlap blanket.

Except as otherwise specified, curing protection for slabs and wearing surfaces shall be applied within 30 minutes after the concrete is screeded and before the surface of the concrete

has lost its surface "wetness" or "sheen" appearance. The first layer of either the burlap or the cotton mats shall be wet and shall be applied as soon as it is possible. Polyethylene sheets shall not be placed directly on the concrete, but may be placed over the fabric cover to prevent drying.

The covering of concrete wearing surfaces, decks, curbs and sidewalks shall be kept continuously wet for the entire curing period by the use of a continuous wetting system and shall be located to insure a completely wet concrete surface for the entire curing period.

All other surfaces, if not protected by forms, shall be kept thoroughly wet either by sprinkling or by the use of wet burlap, cotton mats or other suitable fabric until the end of the curing period, except as provided for in 502.10(D), Removal of Forms and False Work. Polyethylene sheets shall not be placed directly on the concrete, but may be placed over the fabric cover to prevent drying.

Surfaces of all concrete placements containing silica fume additive shall be coated with an approved evaporation retardant immediately after finishing and texturing the concrete surface. The application of wet burlap or wet cotton mats shall be made within 15 minutes after the finishing of the concrete surface.

The application rate, the desired equipment, and the mixing and application procedures for an approved evaporation retardant shall be as designated by the manufacturer. Successive applications or heavier applications of this evaporation retardant shall be applied as necessary to retain the required surface "wetness" appearance.

502.16 Loading Structures and Opening to Traffic

No superstructure concentrated loads such as structural steel beams, girders and trusses shall be placed upon finished concrete substructures until the concrete has reached its design strength.

No load or work will be permitted on concrete superstructure slabs or rigid frame structures until concrete cylinders cured with the slab establish that design strength has been reached. However, after a shorter period of time, the Resident may permit handwork for form construction and setting stone bridge curb. No curbing or other materials shall be stored on the bridge during the seven day curing period, except that if handwork is permitted, curb stones may be stored in a line near to their final location until ready to be set.

Neither traffic nor fill material shall be allowed on superstructures of concrete bridges or culverts until concrete cylinders cured with the slab establish that design strength has been reached, dependent upon conditions as specified in Subsection 502.10 and with the approval of the Resident.

No traffic will be allowed on the cured concrete of a concrete wearing surface until 24-hours after the completion of the application of protective coating for concrete surfaces.

Concrete approach slabs at the end of structures may be opened to traffic or backfilled if buried when the design strength has been reached.

502.17 Bridge Drains and Incidental Drainage

All drains shall be accurately placed at the locations shown on the Plans or as approved by the Resident, and an adequate means provided for securely holding them in the required positions during the placing of concrete.

Bridge drains shall be galvanized in accordance with Subsection 711.04, Bridge Drains. The Contractor shall furnish an insulator between surfaces of galvanized and weathering steels when erecting the bridge drain support assembly. Epoxy-coated washers shall be used when the support assembly attaches to weathering steel beam webs.

Drains or weep holes through abutments and retaining walls shall be pipe of the size and shape shown on the Plans and shall be of Schedule 40 PVC pipe.

For the purpose of providing drainage for any moisture that may collect between the floor slab and the bituminous concrete roadway surface, approved one inch inside diameter plastic tube drains shall be installed at the low points of the slab surface, adjacent to the end dam or dams. The exact location will be determined in the field by the Resident and the discharge from them shall be such as to clear the bridge seats and any other portion of the structure in their proximity. The tops of the drains shall be depressed 3/8 inch below the surface of the slab and the outlets shall project two inches below the underside of the slab. Care shall be exercised such that the drains are open after the installation of the membrane waterproofing, when it is installed.

SPECIAL PROVISION

SECTION 502

STRUCTURAL CONCRETE

(Installation of Plastic Deck Drains)

502.01 Description

The following sentence is added:

This work consists of furnishing and installing 1 inch (inside diameter) plastic deck drains along the shoulders and end dams of the Exit 45 Bridge as detailed in the Plans.

502.17 Bridge Drains and Incidental Drainage

The fourth paragraph is deleted and the following sentences are added:

Holes for the proposed drains shall be cored to minimize the spalling of the deck/ fascia overhang concrete.

Prior to beginning the work, the Contractor shall make provisions to ensure the coring saw slurry and concrete debris does not drop onto the mainline or onto the embankment areas below the deck. Coring saw slurry shall be contained and legally disposed of. It shall not be discharged on the Exit 45 Bridge embankment.

Also prior to beginning the work, the Contractor shall locate the top mat longitudinal and transverse reinforcing steel with a pachometer to minimize damage to the deck reinforcing steel. The plastic drain layout shall be adjusted as required to avoid coring into or through the deck reinforcing steel.

Install the top of the new plastic deck drains depressed 3/8 inch below the proposed deck pavement elevation. Epoxy bond the drain perimeter to the side of the core hole. The drains shall extend a minimum of 6 inches below the deck/ fascia overhang and shall not drain onto the bridge girders, abutments or piers.

502.18 Method of Measurement

The following sentences are added:

Installation of Plastic Deck Drains will be measured per each by the actual number of 1 inch inside diameter plastic deck drains furnished and installed, complete in place and accepted.

Containing and legally disposing of the coring saw slurry will not be measured separately but shall be incidental to the Installation of Plastic Deck Drains pay item.

Locating the top mat longitudinal and transverse reinforcing steel with a pachometer and adjusting the Plastic drain layout to minimize damage to the deck reinforcing steel will not be measured separately but shall be incidental to the Installation of Plastic Deck Drains pay item.

502.19 Basis of Payment

The following sentences are added:

Installation of Plastic Deck Drains will be paid for at the Contract unit price each, which price shall be full compensation for coring the existing bridge deck and for fabrication, delivery and installation including all materials, labor, tools, equipment and incidentals necessary for furnishing and installing the plastic deck drains in accordance with the Plans and Specifications.

Payment will be made under:

Pay Item		Pay Unit
502.81	Installation of Plastic Deck Drains	Each

SPECIAL PROVISION

SECTION 503

REINFORCING STEEL

(Corroded Reinforcing Steel – Repair Detail 1)

503.01 Description

This work shall also consist of repairing corroded reinforcing steel in accordance with these Specifications, the details on the Plans, or as directed by the Resident.

503.02 Materials

The following materials are added:

- Structural Steel 713.01
- Reinforcing Anchoring Material MaineDOT Qualified Products' List

All structural steel and reinforcing steel shall be uncoated.

503.07 Splicing

The following sentence is added:

The welding requirements in the final paragraph of Subsection 503.07 shall apply to this work.

503.10 Method of Measurement

Corroded Reinforcing Steel – Repair Detail 1 will be measured per each by the actual number of individual bar repairs satisfactorily furnished, installed, and accepted.

503.11 Basis of Payment

Corroded Reinforcing Steel – Repair Per Detail 1 will be paid for at the Contract unit price per each, which price shall be full compensation for removing the existing corroded reinforcing bar, sandblasting the remaining portions of the reinforcing bar, furnishing and field welding the steel angle to the remaining portions of the reinforcing bar all materials, labor, tools, equipment and incidentals necessary for completing the repair in accordance with the Plans and Specifications.

Payment will be made under:

Pay Item		Pay Unit
503.171	Corroded Reinforcing Steel - Repair Detail 1	Each

SPECIAL PROVISION

SECTION 507

RAILINGS

(Aluminum Bridge Railing - Splice Modification)

507.01 Description

The following sentence is added:

This work consists of re-centering the existing 3'-0" cast aluminum splice bar in the center of the bridge rail splice joint, and mechanically fastening the splice bar to the aluminum bridge rail on one side of the bridge rail splice joint per the details on the Plans. This work will occur at the Running Hill Road Bridge and the Warren Avenue Bridges.

507.06 Method of Measurement

Aluminum Bridge Railing – Splice Modification will be measured for payment by each, satisfactory modified and accepted.

507.07 Basis of Payment

Aluminum Bridge Railing – Splice Modification will be paid at the Contract unit price per each which price shall be full compensation for all labor, materials, equipment and incidentals required for re-centering and mechanically fastening the splice bar as shown on the Plans, in accordance with these Specifications or as approved by the Resident.

Payment will be made under:

Pay Item		Pay Unit
507.095	Aluminum Bridge Railing - Splice Modification	Lump Sum

SPECIAL PROVISION

SECTION 507

RAILINGS

(Light-Weight Barrier – Fabricated and Delivered)
(Light-Weight Barrier – Placed (Temporary))
(Light-Weight Barrier – Placed (Permanent))

507.01 Description

This subsection amended with the addition of the following:

This work shall also consist of the furnishing of all materials for, and the installation of, a bridge barrier system, including appropriate expansion devices, transition devices, beveled anchorage plates and end treatments, in accordance with these specifications and the lines and grades shown on the Plans. This proposed bridge barrier system shall consist of supplying and installing light-weight prefabricated bridge barrier, associated expansion devices, transition devices and end treatments on the Exit 45 Bridge. The Contractor's bid price shall be developed based on the entire Bridge Barrier System becoming the property of the Authority upon completion of the Contract.

This work shall also consist of furnishing and mounting retro-reflective flex tab delineators on the traffic side of the barrier system at intervals not exceeding eight feet.

The light-weight prefabricated bridge barrier system, and all proposed expansion devices, transition devices and end treatments, shall meet NCHRP 350 Test Level III (TL-3) crash test requirements as a minimum-deflection system and shall be installed by the Contractor in accordance with the manufacturer's requirements.

This work shall also consist of furnishing, delivering, resetting and stacking the light-weight prefabricated bridge barrier during construction as part of the temporary works phasing to the limits shown on the Plans.

The quantity for Light-Weight barrier includes an additional 80 linear feet of barrier that shall be delivered to the Crosby Maintenance Yard by the Contractor for future use by the Authority.

507.02 Materials

The following paragraphs are added at the end of this subsection:

Where drilling and anchoring into concrete is required, the proposed anchoring material shall be selected from the MaineDOT's Qualified Products List of chemical anchoring materials.

Light-weight prefabricated bridge barrier shall meet the requirements of Subsection 507.041. The following system is pre-approved for use on this project:

BarrierGuard 800 MDS
US Reflector
43 Franklin Street
East Hartford, CT 06108
Phone: (860) 906-3390
george@usreflector.com
www.usreflector.com
www.endotocorp.com

507.03 Drawings

The following paragraphs are added at the end of this subsection:

Prior to fabrication and installation of the selected Barrier System, the Contractor shall submit working drawings of the proposed system, including the light-weight prefabricated bridge barrier, expansion devices, transition devices and end treatments, to the Authority for approval. The working drawings shall include detailed layout and anchoring information for the system. Through bolting of the deck is not permitted.

Design calculations for the proposed light-weight prefabricated bridge barrier and all proposed devices and end treatments shall be submitted to the Authority for approval. The calculations shall support the working drawings and include relevant documentation demonstrating the proposed system meets the requirements of the Contract Plans and these Specifications. Design calculations shall be completed in accordance with AASHTO LRFD Bridge Design Specifications, latest edition, with all interims thereto.

All working drawings and design calculations shall be prepared and stamped by a Professional Engineer licensed in the State of Maine.

The following subsection is added:

507.041 Performance Requirements

The proposed Barrier System, including light-weight prefabricated bridge barrier shall be designed and detailed to satisfy the following performance criteria:

- Meet or exceed NCHRP 350 Test Level III (TL-3) crash test requirements for a minimum deflection system.
- Weight of installed system shall be less than, or equal to, 90 pounds per linear foot.
- System can be installed within the limitations outlined in Special Provision 105, Limitations of Operations.
- Can be adequately anchored into the existing concrete deck without through bolting.
- Width at base of barrier does not exceed 2’-4”.
- Can serve as a median barrier as shown on the Plans.
- Height of barrier, measured from top of roadway to top of barrier, shall be at least 32 inches.
- System will maintain a minimum shoulder width of 2 feet from face of barrier at all locations.

- Maintains proper roadway drainage and will not cause ponding on the roadway.
- Accommodates thermal expansion and contraction at bridge joint locations.
- System can be installed in front of bridge curb while maintaining its crashworthiness characteristics (i.e., deflection, tipping, etc.).
- Does not include details prone to snagging during snow removal operations.
- Accommodates the replacement of damaged sections.
- Can be installed in roadway shoulder.
- Can transition to the existing approach guardrail as shown on the Plans.
- System can be fabricated, delivered and installed within the specified contract dates.

The following subsection is added:

507.042 Methods and Equipment

The following paragraph is added:

All vehicles and equipment proposed for use on the bridge to deliver, unload, set, and reset the light-weight prefabricated bridge barrier system shall be subject to the restrictions outlined in Special Provision 107, Limitations of Operations.

507.043 Construction Requirements

The following paragraphs are added:

All anchorage locations shall be placed to avoid damage to the existing deck steel reinforcing through the use of a pachometer or other methods of detection before or after final paving has been completed. During temporary work the barrier shall be anchored per the manufacturer's requirements and according to the limits on the Plans. Temporary anchorage locations that occur on new pavement shall be filled and sealed with hot rubber.

During installation of deck anchor bolts, the Contractor shall monitor the under deck region of the anchor installation for signs of loose concrete. If concrete appears loose or spalled immediately stop drilling and notify resident.

Prior to final placement of the light-weight barrier, the bridge joint gland seal shall be fully installed.

507.08 Method of Measurement

The following paragraphs are added:

Light-Weight Barrier – Fabricated and Delivered shall be measured per linear foot. Furnishing, delivering and stacking barrier and the system components will not be measured for payment separately, but shall be considered incidental to Pay Item 507.11.

Light-Weight Barrier – Placed (Temporary) shall be measured per linear foot. Stacking, positioning, anchoring and resetting barrier and the system components will not be measured for payment separately, but shall be considered incidental to Pay Item 507.12.

Light-Weight Barrier – Placed (Permanent) shall be measured per linear foot. Positioning and anchoring barrier and the system components will not be measured for payment separately, but shall be considered incidental to Pay Item 507.13.

507.09 Basis of Payment

This subsection is deleted and replaced with the following:

Light-Weight Barrier – Fabricated and Delivered will be paid for at the Contract unit price per linear foot, which price shall be full compensation for fabricating, delivering and initially storing the barrier system, including delineators.

Light-Weight Barrier – Placed (Temporary) will be paid for at the Contract unit price per linear foot, which price shall be full compensation for loading, transporting, unloading, positioning, anchoring and resetting the barrier system as part of the temporary construction phasing. Work associated with the attachment of or removal and reattachment of delineators shall be incidental to this item.

Light-Weight Barrier – Placed (Permanent) will be paid for at the Contract unit price per linear foot, which price shall be full compensation for loading, transporting, unloading, positioning, anchoring and performing final installation of the barrier system as part of the proposed permanent condition.

Payment will be made under:

Pay Item		Pay Unit
507.11	Light-Weight Barrier – Fabricated and Delivered	Linear Foot
507.12	Light-Weight Barrier – Placed (Temporary)	Linear Foot
507.13	Light-Weight Barrier – Placed (Permanent)	Linear Foot

SPECIAL PROVISION

SECTION 508

MEMBRANE WATERPROOFING

(Waterproofing Membrane)

508.01 Description

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

When waterproofing membrane is specified, the Contractor shall furnish and install an approved waterproofing membrane to the concrete deck with membrane system applied in accordance with the Plans, Specifications and the manufacturer's published recommendations.

508.02 Materials

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

When waterproofing membrane is specified, the materials shall meet the requirements of the manufacturer and shall be one of the "Prequalified Standard Systems" on the MaineDOT's Qualified Products List of Waterproofing Membranes.

All membrane joints along curbs, scuppers and bridge joints shall be sealed using one of the following materials:

Monolithic Membrane 6125	Aslan Flashing
American Hydrotech, Inc.	Soprema, Inc.
Chicago, Illinois	Wadsworth, Ohio
Phone: 800-877-6125	1-800-356-3521
www.hydrotechusa.com	www.soprema.us

508.05 Installation

This subsection is deleted and replaced with the following:

When Waterproofing Membrane is specified the edge of the membrane shall terminate no more than ½ inch from the curb line, scupper or bridge expansion joint.

508.07 Basis of Payment

Payment will be made under:

Pay Item		Pay Unit
508.13	Waterproofing Membrane	Lump Sum

SPECIAL PROVISION

SECTION 515

PROTECTIVE COATING FOR CONCRETE SURFACES

(Pigmented Protective Coating for Concrete Surfaces)

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

515.01 Description

The work shall include the surface preparation and application of a pigmented concrete protective coating system to protect new and existing concrete and masonry structures. The coating system shall be applied to piers, endposts, wingwalls, abutments, curbs and fascia in accordance with the Plans, Specifications and the manufacturer's published recommendations at the following locations:

- Exit 45 Bridge Substructure

515.02 Materials

The pigmented penetrating sealer system shall be a two coat system consisting of Certi-Vex Guard and Certi-Vex Envio Smooth VOC, as manufactured by Vexcon Chemicals, Inc., or an approved equal, consisting of the following two parts:

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

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

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

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

The pigmented penetrating sealer color shall be Concrete Gray.

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

515.021 Substitute Materials

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

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

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

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

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

515.03 Surface Preparation

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

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

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.

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

515.04 Application

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

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

The primer shall not be applied in direct sunlight when the air or surface temperature is greater than 90°F, or when air or surface temperature is below 35°F. The top coat shall not be applied when air or surface temperature is below 40°F or as approved by the Resident.

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

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

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

515.05 Method of Measurement

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

515.06 Basis of Payment

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

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 515

PROTECTIVE COATING FOR CONCRETE SURFACES

(Clear Protective Coating for Concrete Surfaces)

This Section 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 concrete protective coating system to protect new and existing concrete and masonry structures at the Exit 46 Interchange as follows:

- Exit 46 median barrier between the southbound off and southbound on Interchange ramps; and between the northbound off and northbound on Interchange ramps.

- Exit 46 bridge barrier and exterior bridge fascia to the limits shown on the Plans.

The coating system shall be applied to all exposed surfaces above the granite curbing in accordance with the Plans, Specifications and the manufacturer's published recommendations.

The Contractor shall notify the Resident of any areas not suitable re-sealing of the barrier before proceeding with the work.

515.02 Materials

The penetrating sealer shall be Stand Off 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 Stand Off 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

Any tectyl coating remaining after the sounding and patching of the bridge abutments shall be removed prior to the application of the sealer.

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

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

515.04 Application

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

The application shall not be conducted when surface and air temperatures are below 40°F or above 100°F. The work shall not be conducted when there is a chance of the surface temperature falling below 40°F in the 24-hours following application.

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 515

PROTECTIVE COATING FOR CONCRETE SURFACES

(Re-caulking Existing Concrete Barrier Construction / Control Joints)

515.01 Description

The work shall include the removal of existing caulking and backer rod, routing of the joint (if necessary), surface preparation and installation of premium-grade, high-performance, moisture-cured, single component, polyurethane-based, non-sag elastomeric professional grade sealant to protect existing concrete structures at the Exit 46 Interchange as follows:

- Exit 46 Median Barrier between the southbound off and southbound on Interchange ramps; and between the northbound off and northbound on Interchange ramps.

- Skyway Drive (Exit 46) Bridge Barrier to the limits shown on the Plans.

All concrete barrier construction / control joints above the granite curbing shall be re-caulked in accordance with the Plans, Specifications and the manufacturer's published recommendations.

The Contractor shall notify the Resident of deteriorated mortar joint materials in the concrete barrier granite curbing. Granite curb mortar repair is not included under this Special Provision.

The Contractor shall notify the Resident of any concrete barrier areas requiring patching prior to proceeding with the re-caulking work. Patching of concrete barrier is not included under this Special provision.

515.02 Materials

The premium-grade, high-performance, moisture-cured, single component, polyurethane-based, non-sag elastomeric professional grade sealant shall be Sikaflex 1a, as manufactured by Sika Corporation, Inc., or an approved equal.

The Contractor shall submit the Sika Corporations product data sheets, material safety data sheets and recommended instructions for application of the Sikaflex 1a.

Backer rod shall be a compressible, non-absorbent closed cell backer rod sized for the specific application location.

Bond breaker tape shall be a strong polypropylene backed bond breaker tape with high sealant release performance sized for the specific application location.

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

515.03 Surface Preparation

Surfaces shall be prepared to the manufacturer's published recommendations.

Rout the existing concrete joint depth or expansion board and/or install backer rod or bond breaker tape to provide a minimum ¼ inch depth, and maximum ½ inch depth of caulking. Proper joint preparation shall provide a 2:1 width to depth ratio.

Any concrete patching required shall be completed and cured prior to application of the joint caulking.

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 install the backer rod, bond breaker tape and caulking in strict accordance with the manufacturer's published recommendations.

The caulking shall not be installed when surface and air temperatures are below 40°F or above 100°F. The work shall not be undertaken when the surface temperature will fall below 40°F in the 24-hours following caulking installation.

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

515.05 Method of Measurement

Re-caulking Existing Concrete Barrier Construction / Control Joints will be measured for payment by the linear foot, satisfactorily applied and accepted.

515.06 Basis of Payment

Re-caulking Existing Concrete Barrier Construction / Control Joints will be paid at the Contract unit price per linear foot which price shall be full compensation for all labor, materials, equipment and incidentals required for re-caulking the barrier joints, in accordance with these Specifications or as approved by the Resident.

Surface preparation, removal of existing caulking and backer rod from the existing construction and control joints, routing of the existing concrete joint or expansion board, installation of new backer rod, bond breaker tape and caulking in the existing construction and control joints, and protection of surfaces not designated for treatment will not be measured separately for payment, but shall be incidental to the Re-caulking Existing Concrete Barrier Construction / Control Joints item.

Payment will be made under:

Pay Item		Pay Unit
515.203	Re-caulking Existing Concrete Barrier Construction / Control Joints	Linear Foot

SPECIAL PROVISION

SECTION 518

STRUCTURAL CONCRETE REPAIR

(Abutment Repairs)
(Epoxy Injection Crack Repairs - Parapets)
(Repair of Vertical Surfaces – Approach Slab Modification)
(Partial Depth Concrete Deck Repairs)
(Full Depth Concrete Deck Repairs)
(Bridge Joint Header Concrete Repairs)

518.01 Description

The following paragraphs are added:

The work includes abutment repairs, epoxy injection crack repairs, approach slab modifications, partial and full depth concrete deck repairs, and bridge joint header concrete replacement as described below.

- Abutment repairs include concrete surface repairs on all deteriorated horizontal, vertical and overhead abutment and wingwall surfaces as shown on the Plans or identified by the Resident.

- Epoxy Injection Crack Repairs include the epoxy injection of cracked horizontal concrete surfaces of the Exit 46 Bridge parapet as directed by the Resident.

- Repair of Vertical Surfaces - Approach slab modifications include concrete resurfacing of the Exit 46 Bridge approach slabs along the joints to facilitate the installation of a new joint. The limits of the modification are shown on the Plans.

- Partial depth concrete deck repairs are repairs on all deteriorated horizontal deck surfaces less than 4.9 inches in depth as shown on the Plans or identified by the Resident.

- Full depth concrete deck repairs are repairs on deteriorated deck surfaces greater than 4.9 inches in depth as shown on the Plans or identified by the Resident. Full depth concrete deck repairs shall be scheduled and coordinated with the Authority.

- Bridge joint header concrete repair is the removal of existing header concrete, subsequent cleaning of the existing reinforcing steel, placement of bonding agents; forming, placing, curing, and finishing concrete materials, to a minimum depth of 4 inches on per the details shown on the Plans or identified by the Resident.

The work shall also include the removal of all tectyl (bituminous) coating on the backwalls, bridge seats and breastwalls of the existing bridge structures. This work shall occur prior to the start of the abutment concrete repairs so the Resident may identify additional areas requiring repair.

518.03 Repair Materials is re-designated as Subsection 518.02 Repair Materials.

Paragraphs 1-3 and the Coarse Aggregate Gradation Designation/ Thickness of Placement Table of Section 518.03 Repair Materials are deleted and replaced with the following:

A patching material from the appropriate list provided below may be used instead of concrete for concrete patching at the Contractor's option, provided the manufacturer's published recommendations are met (Note: Not all products are suitable for all depth of placements.). All materials used for repair of concrete or reinforcing steel shall meet the applicable requirements of Division 700 as specified in the Standard Specification Sections 502 and 503 respectively. When concrete is used as the repair material, it shall conform to the requirements of Table 1 of Subsection 502.05 for Class AAA Concrete except that the minimum cement factor shall be **750 pounds** per cubic yard. Concrete mix shall be selected at 1,200 psi above design strength of 4,500 psi. The coarse aggregate size shall conform to ASTM C33 Grading 7.

Materials for non-emergency deck patching, and formed vertical and overhead deck repairs, shall be one of the following:

MTA - AAA modified concrete – transit mixed or mixed on site,
Sikacrete 211, as manufactured by Sika Corporation, 201 Polito Avenue, Lakehurst, NJ 07011
SikaRepair 222 extended with aggregate, as manufactured by Sika Corporation, 201 Polito Avenue, Lakehurst, NJ 07011
BASF LA40 Repair Mortar, as manufactured by BASF Corporation, 889 Valley Park Drive, Shakopee, MN 55379
Civil Structural FPX, as manufactured by Dayton Superior Corporation, 1125 Byers Road, Miamisburg, OH 45342

or an approved proprietary, non-fast setting, shrinkage compensated patching material, manufactured or extended with stone, with the following published properties:

Compressive strength @ 24 hours – less than 3500 psi
Compressive strength @ 28 days – less than 7500 psi
Minimum bond strength @ 28 days – 1500 psi

Note: Rapid-setting high early strength materials are not permitted.

Materials for non-emergency, un-formed vertical and overhead deck repairs shall be one of the following:

SikaTop 123 Plus as manufactured by Sika Corporation, 201 Polito Avenue, Lakehurst, NJ 07011.
SikaRepair 223, as manufactured by Sika Corporation, 201 Polito Avenue, Lakehurst, NJ 07011
Zero-C Vertical Overhead Mortar, as manufactured by BASF Corporation Systems, 889 Valley Park Drive, Shakopee, MN, 55379.
Verticoat Supreme as manufactured by The Euclid Chemical Company, 19218 Redwood Rd., Cleveland, OH, 44110

Materials for emergency deck patching (non-overhead only) may be selected from the Maine Department of Transportation's Qualified Products List for concrete patching materials.

The second sentence in subsection 518.03.1 is revised to read:

"The bonding material shall consist of the following, except that, in the case where an approved proprietary material is used in the repair areas, the manufacturer's published recommendations regarding application and use of bonding materials shall take precedence:"

The following paragraphs are added:

Existing bridge header concrete shall be replaced with transit mix, a repair mix specified in this 518 specification, or may be elastomeric concrete when placed behind barrier. Existing bridge header concrete shall be replaced with elastomeric concrete when placed in areas that will receive traffic before design strength can be achieved with the repair materials permitted when placed behind barrier.

Transit mix shall not be used for approach slab modifications at Exit 46.

Elastomeric Concrete shall be one of the products listed on the Maine Department of Transportation's Qualified Product List for Elastomeric Concrete.

The Elastomeric Concrete materials furnished, and equipment and installation procedures used shall be in strict accordance with the manufacturer's/ supplier's published product data and installation guidelines. Product data, installation guidelines, test data and reports, and material certifications shall be submitted for review and approval.

The installers (Contractors personnel) shall have a factory trained lead person(s) onsite during the Elastomeric Concrete installation, or the approved manufacturer/supplier shall provide a qualified technical representative(s) to supervise the Contractor's personnel in the proper methods of installation of Elastomeric Concrete. The manufacturer's technical representative(s) shall be onsite for the first placement and shall provide training to the Contractors personnel.

Epoxy injection crack repairs shall be completed using a high strength, low viscosity moisture tolerant epoxy resin approved by the Resident.

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

Tensile Strength (@ 7 days)	5,000 psi	ASTM D638
Bond Strength (@ 14 days)	1,000 psi	ASTM C882
Compressive Strength (@ 3 days, 73°F)	5,000 psi	ASTM D695
Compressive Modulus (@ 7 days)	250 ksi	ASTM D695
Flexural Strength (@ 14 days)	8,000 psi	ASTM D790

518.03 Removal of Unsound Concrete

Paragraph 4 item b) is revised to read:

"b) To the minimum depth required per the manufacturer's recommendation, but not less than 1 inch behind the top mat of reinforcing steel, when an approved proprietary material is used."

Paragraph 4 item c) is deleted and not replaced.

Paragraph 4 item d) is revised to read:
"d) To a minimum depth of 1 inch behind the top mat of reinforcing steel."

The following paragraphs are added:

Care shall be taken during the demolition process to ensure the integrity of the surrounding concrete is maintained. The Contractor shall use great care to avoid damaging the existing reinforcing steel during the demolition process. Existing reinforcing steel damaged during the demolition process shall be repaired or replaced by a method approved by the Resident, at no additional cost to the Authority.

All unsound concrete and other material removed shall be disposed of outside the limits of the turnpike right-of-way. 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 Chapter 404 of the Maine Department of Environmental Protection Solid Waste Regulations.

The following Subsection is added:

518.031 Bearing Areas for Superstructure Metal

The Contractor's attention is directed to the fact that the removal of unsound concrete may be immediately adjacent to the structural bearing parts of the steel stringers and may involve removal of unsound concrete under the existing masonry plate.

The Contractor shall submit, a minimum of two (2) weeks prior to the start of work, his proposed method of temporary support which will list the type and size of the proposed members, details of construction, load capacity calculations, and a sequence of operations, all to be made and stamped by a Professional Engineer registered in the State of Maine. Temporary structural supports may bear on the adjacent bridge seat area, backwall or ground.

The following Subsection is added:

518.032 Removal of Concrete

The Contractor shall remove concrete at the Exit 46 Bridge approach slabs to limits shown on the plans. Concrete removal shall be performed as stated in Specification 202.

During removal, the Contractor shall monitor the under deck region of the repair for signs of loose concrete. If concrete appears loose or spalled immediately stop removal/repair and notify resident.

518.04 Reinforcing Steel

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

All existing reinforcing steel exposed by concrete removal which is to remain in the structure, shall be thoroughly cleaned by sandblasting to an SSPC-SP-6, supplemented by chipping hammers or other means as necessary so that the surfaces are free of rust, scale, mortar and other foreign material, and reasonably free of shadows. The sandblast shall be applied at an angle to the bars so that the embedded steel shall be free of rust and other foreign material to 100 percent of its circumferences. Once the existing reinforcement is cleaned, and prior to casting the repair, all new and existing reinforcing steel shall be coated with an approved epoxy bonding agent. The elapsed time between sandblasting application of the approved epoxy bonding agent shall be a reasonable minimum.

The following paragraph is added to the end of this Subsection:

Where approved by the Resident, exposed reinforcement shall be depressed to provide 1-1/2 inch clear cover of concrete over the top bars. Minimum clear distance under the bottom of reinforcement bars for horizontal repairs, behind reinforcement bars on vertical repairs, and over the top of reinforcement bars on overhead surfaces shall meet the requirements of Subsection 518.03. Epoxy coated reinforcing support chairs shall be provided by the Contractor to support the bars in their specified location. Bars protruding from sound concrete adjacent to a repair area shall be bent up or down within the repair area to obtain the required minimum clear cover.

518.07 Placing Concrete Repair Materials

The following is added after the first paragraph:

All vertical and overhead repair areas shall be formed over the entire surface with quick erecting forms approved by the Resident. The forms shall be held securely in place and be able to withstand the hydrostatic pressure of the fluid concrete of the height to which it is to be placed. Forms shall be built such that the resulting repair will duplicate the original lines of the concrete removed. Form faces shall be of new finished plywood or steel, or other smooth surface as approved by the Resident prior to use. Forms will be provided with a top chute, at a maximum spacing of four feet, for providing a compression head of concrete in the form. The overfilled area shall be struck-off flush when forms are removed. Forms shall be placed snugly against the surface of the old concrete at the edges of the patch and shall extend beyond the edges at least three inches. They shall not deflect under the placement of the fresh concrete. Vertical surface repair forms shall remain in place a minimum of 48-hours.

All proposed bearing pads and bearing pad repairs shall be cast monolithically with the abutment repair concrete.

The following paragraphs are added to the end of this Subsection:

Modified Class AAA Concrete may be transit mixed or mixed on-site. The concrete shall be placed in accordance with the provisions of Section 502 except that the pre-plasticized slump shall not exceed three inches. Materials shall be batched by weight. The concrete shall be pumped or hand shoveled into the forms. Internal mechanical vibrators shall be of an approved design and of a size suitable to the work at hand. External vibrators attached to the forms will be permitted if requested, subject to the results obtained. The amount of vibration shall be guided by results obtained from previous placements.

If the concrete cannot be placed satisfactorily, as determined by the Resident, superplasticizers shall be added to the mix as approved by the Resident and at no additional cost to the Authority. After removal of the forms, the concrete shall be smooth rubbed and wet cured and given a smooth rubbed finish.

518.071 Placing Epoxy Injection Materials

a) Mix epoxy components per manufacturer's instructions. Review pot life characteristics of combined materials and prepare quantities accordingly;
b) Open all injection ports along the crack and ensure that all injection ports are securely fastened to the concrete substrate;
c) Attach injection device to the lowest port on vertical cracks, or the first port in the series on horizontal cracks;
d) Slowly and under constant pressure, inject the epoxy material into the first port until the epoxy flows out of the next port in the series. While maintaining constant pressure and flow at the first port, close the adjacent port and continue injection process until epoxy flows from the subsequent port in the series, or until no additional epoxy can be injected into the first port.
e) Repeat the above procedure until all ports have been injected.

518.10 Method of Measurement

The sixth paragraph is deleted and not replaced.

The following paragraphs are added:

The quantity of Abutment Repairs, Partial Depth Concrete Deck Repairs, Full Depth Concrete Deck Repairs, and Bridge Joint Header Concrete Repairs will be measured by the square foot and shall be computed as the sum of the products of the average length and width of each area repaired.

Removal of all tectyl (bituminous) coating from existing abutments will not be measured separately for payment, but shall be incidental to the Repair items.

Fabrication and placement of reinforcing steel for concrete repairs will not be measured for payment separately, but shall be considered incidental to the related contract items.

The quantity of Epoxy Injection Crack Repairs - Parapets will be measured by the linear foot.

The quantity of Repair of Vertical Surfaces – Approach Slab Modification will be measured by the linear foot.

Earth excavation required to expose repair areas will be paid for under Structural Earth Excavation, Item 206.081. Backfill of the repair areas will not be measured separately for payment, but shall be incidental to the Structural Earth Excavation item.

518.11 Basis of Payment

The following paragraphs are added:

Abutment Repairs, Partial Depth Concrete Deck Repairs, Full Depth Concrete Deck Repairs, and Bridge Joint Header Concrete Repairs will be paid for at the Contract unit bid price per square foot for each type of repair; which price shall include, but not necessarily be limited to, removal and disposal of materials; cleaning existing concrete and reinforcing steel; furnishing and placing new reinforcing steel where required; furnishing, placing and removal of forms, staging, temporary supports where required; placing, curing and finishing new concrete; and, all materials, labor, equipment, tools and incidentals necessary to complete the work. If the Bridge Joint Header Concrete Replacement exceeds the 4 inch surface depth as specified the unit bid price maybe increased by a proportional amount to account for that additional material and effort.

Epoxy Injection Crack Repairs - Parapets will be paid at the Contract unit bid price per linear foot; which price shall include, but not necessarily be limited to, cleaning concrete; furnishing and installing pressure injection system; placing, curing, epoxy injection materials; and all secondary materials, equipment, tools and incidentals to complete the work.

Repair of Vertical Surfaces – Approach Slab Modification will be paid at the Contract unit bid price per linear foot; which price shall include, but not necessarily be limited to, removal and disposal of materials; excavation; cleaning existing concrete and reinforcing steel; furnishing and placing forms, removal of temporary forms; placing, curing and finishing new concrete; furnishing and installing steel reinforcement for pinning the slab to the backwall shelf; and, all materials, labor, equipment, tools and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
518.10	Abutment Repairs	Square Foot
518.40	Epoxy Injection Crack Repairs - Parapets	Linear Foot
518.60	Repair of Vertical Surfaces – Approach Slab Modifications	Linear Foot
518.80	Partial Depth Concrete Deck Repairs	Square Foot
518.81	Full Depth Concrete Deck Repairs	Square Foot
518.86	Bridge Joint Header Concrete Repairs	Square Foot

SPECIAL PROVISION

SECTION 520

EXPANSION DEVICES – NON MODULAR

(Install New Gland Seal – Exit 45)

520.01 Description

The following sentences are added:

The work includes installing complete new gland seals at Exit 45 Bridge westbound and eastbound. At each abutment the seal shall be one continuous piece extending the full width of the existing joint armor after the proposed modifications at the median.

Seals for gland seal expansion devices shall match existing. The Contractor shall field verify the proposed replacement seals and opening dimensions, and match the existing gland seals and gland seal extrusions prior to ordering the replacement seals.

520.02 Materials

The following sentence is added:

Materials for locking compression seals shall meet the material requirements of Expansion Device – Gland Type Seals specified in this Subsection except that the seal must fit in the existing joint armor.

520.06 Installation

The following paragraphs are added after the first paragraph:

On phased construction projects, the seals shall be installed in one piece after the joint armor is cleaned and repaired for all construction phases. The Contractor shall schedule the installation of the work when the ambient temperature allows the bridge steel to contract sufficiently so the seal may be installed without damage. The work included in Special Provision 520, Bridge Joint Modification – Exit 45 at Median shall be completed prior to installation of the proposed gland seal.

The gland seals shall be installed prior to the permanent installation of the light-weight barrier.

Once the seals are permanently installed, the Contractor shall thoroughly clean the abutment seats to remove any debris, salt, or other foreign contaminants.

520.07 Method of Measurement

Install New Gland Seal - Exit 45 will be measured by the linear foot along the top surface of installed joints to the limits as shown on the Plan. Preparation of surfaces for the proposed joint system including cutting, grinding and cleaning, will not be measured separately for payment, but shall be incidental to the Install New Gland Seal – Exit 45 item.

520.08 Basis of Payment

The following paragraphs are added:

Install New Gland Seal - Exit 45 will be paid for at the Contract unit price per linear foot which price shall be full compensation for all labor, materials, equipment and incidentals required for furnishing and installing the seal as shown on the Plans, in accordance with these Specifications or as approved by the Resident.

Payment will be made under:

Pay Item		Pay Unit
520.211	Install New Gland Seal – Exit 45	LF

SPECIAL PROVISION

SECTION 520

EXPANSION DEVICES -- NON MODULAR

(Asphaltic Plug Joint)

520.01 Description

This work shall consist of furnishing and installing asphaltic plug joint systems at the locations shown on the Plans, in accordance with these Specifications or as approved by the Resident.

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

520.011 Submittals

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

(a) Complete and detailed Shop Drawings of asphaltic plug joint system. Shop Drawings shall include information covering materials, their properties, installation procedures, storage and handling requirements, and Materials Safety Data Sheets.

(b) The resume of the manufacturer's technical representative, which shall include the representative's experience installing the asphaltic plug joint system along with the names and telephone numbers of contact persons for recent projects where technical assistance was provided.

(c) Certified test reports of the asphaltic binder, closed cell foam backer rod and the plastic compound.

(d) Certificates of Compliance for bridging plates, centering nails and aggregate.

520.02 Materials

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

The following systems are acceptable for use as asphaltic plug joints:

Thorma-Joint	Wabo Expandex	Matrix 502
Dynamic Surface Applications, Ltd 373 Village Road Pennsdale, PA 17756	Watson Bowman Acme 95 Pineview Drive Amherst, NY 14228	D.S. Brown 300 East Cherry St. North Baltimore, OH 45872

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

(a) Asphaltic Binder:

Binder shall be a polymer modified asphalt material conforming to the latest ASTM D6297 with the following properties when tested in accordance with the following ASTM methods:

PROPERTY	REQUIREMENT	TEST METHOD
Softening Point, °C	83 min.	ASTM D36
Tensile Adhesion	700 min.	ASTM D3583
Ductility min @ 25°C (77°F)	400 min.	ASTM D113
Penetration max @ 25°C (77°F), 150 g, 5 s min @ -18°C (0°F), 200 g, 60 s	 75 mm 1.0 mm	ASTM D3407
Flow 5 hrs @ 60°C (140°F), mm	3.0 max.	ASTM D3407
Resilience min.-max. @ 25°C (77°F), %	40 - 70	ASTM D3407
Asphalt Compatibility @ 140°F	Pass	ASTM D3407
Recommended Pouring Temperature, °C	182 to 199	
Safe Heating Temperature, °C	199 to 216	
Bond 3 cycles at -7°C (20°F), 100% Elong.	Pass	ASTM D3405
Flexibility at -23°C (-10°F)	Pass	ASTM D5329

(b) Backer Rod:

Backer rod shall be a cylindrical closed cell expanded polyethylene foam rod, with a diameter of 150 percent of joint opening width, capable of withstanding the temperature of the hot binder materials and meeting the manufacturer's requirements, or the following properties, whichever is more stringent:

PROPERTY	REQUIREMENT	TEST METHOD
Density, lb/ft^3	2.0 min.	ASTM D1622
Tensile Strength, psi	25 min.	ASTM D1623
Water Absorption, % of wt.	1.0 max.	ASTM C509

(c) Bridging Plate:

Bridging plate shall be ASTM A36 steel, minimum of 1/4 inch thick and galvanized. Holes for the centering nails shall be approximately one foot center to center along the centerline of plates.

(d) Centering Nail:

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

(e) Aggregates:

Aggregate shall be crushed, double-washed and dried, igneous rock and meeting the manufacturer's gradation. This aggregate shall also be used for top dressing on the finished joints.

(f) Plastic Compound:

Plastic compound used for repairing overcuts in bituminous concrete overlays shall be a two-component liquid with a synthetic resin base. It shall have a minimum viscosity of 3,500 cps at 77°F and a maximum viscosity of 65,000 cps at 25°F. The plastic compound shall be cured by the addition of a specific hardener. Sufficient hardener shall be used to cure the plastic compound in approximately 30 minutes at 77°F. It shall have sufficient strength and resiliency to withstand stresses set up by vibration, expansion and contraction due to temperature changes. It shall also be resistant to most chemicals and solvents, including most salts, acids, and hydrocarbons.

520.06 Installations

Asphaltic plug joint system shall be installed in accordance with manufacturer’s latest instructions and specifications. Manufacturer’s representatives shall be present during the entire installation to ensure satisfactory results are obtained.

Asphaltic plug joint system shall allow total joint movement for up to two inches. The installation shall be centered over the expansion joint gap as indicated on the Plans. It shall not be installed when ambient or substrate temperatures are below 40°F, when rain is imminent, or in other environmental conditions disapproved by the Resident.

Sawcut and remove bituminous concrete overlay and waterproofing membrane to the required dimensions as shown on the Plans. If required, a leveling course shall be applied to concrete surfaces prior to placing bridging plates. Vertical surfaces of bituminous concrete overlay shall be cleaned to remove all water and cutting dust.

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

Binder shall be heated to a safe temperature as recommended by manufacturer. Heating kettles shall be equipped with continuous agitation system, temperature controller, calibrated thermometer and double steel jacket with an oil layer in between to prevent scorching of the binder. During application, the temperature of binder shall be maintained at a minimum of 350°F. It shall be poured into expansion joint openings until it runs over edges.

Steel bridging plates shall be placed from curb-to-curb on the roadway portion of expansion joints. Plates shall be centered over joint openings. Centering nails shall be placed in pre-drilled holes and hammered in to secure plates.

Aggregate shall be heated in a rotating drum mixer to a minimum of 350°F or as recommended by the Resident. The thermoplastic polymeric modified asphalt Binder shall be added to the mixer to precoat aggregates.

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

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

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

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

520.07 Method of Measurement

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

520.08 Basis of Payment

Asphaltic Plug Joint system will be paid for at the Contract unit price per linear foot which price shall be full compensation for all labor, materials, equipment and incidentals required for furnishing and installing the Asphaltic Plug Joint system as shown on the Plans, in accordance with these Specifications or as approved by the Resident.

The backer rod and elastomeric sealant installed up the vertical face and across the horizontal surfaces of bridge curbs, parapets and sidewalks will not be measured separately for payment, but shall be incidental to the Asphaltic Plug Joint item.

Payment will be made under:

Pay Item		Pay Unit
520.23	Asphaltic Plug Joint	Linear Foot

SPECIAL PROVISION

SECTION 520

EXPANSION DEVICES – NON-MODULAR

(Bridge Joint Modification – Exit 45 at Median)

520.01 Description

The following paragraph is added:

The work shall also include modifying the existing gland seal bridge joints at the median barrier location on both ends of the Exit 45 Bridge to permit the installation of the light-weight median barrier.

520.06 Installation

The following paragraphs are added:

For Bridge Joint Modification – Exit 45 at Median the existing joint armor shall be removed to the limits shown on the Plans. New joint armor shall then be installed matching the existing joint steel making a single continuous joint that bridges between the westbound and eastbound lanes as shown on the Plans.

The gland seals shall be installed prior to the permanent installation of the light-weight barrier.

520.07 Method of Measurement

The following paragraphs are added:

Bridge Joint Modification – Exit 45 at Median will be paid at the Contract unit price per linear foot of bridge roadway width.

Installation of the replacement gland seals will be measured for payment separately.

520.08 Basis of Payment

Bridge Joint Modification – Exit 45 at Median will be paid for at the Contract unit price which price shall be full compensation for removing the existing joint armor, furnishing and installing new joint steel, including all materials, labor, tools, equipment and incidentals necessary to complete the work with the Plans and Specifications.

Payment will be made under:

Pay Item		Pay Unit
520.24	Bridge Joint Modification – Exit 45 at Median	Linear Foot

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 of a shape designated on the Plans. The barrier shall have attachments allowing individual sections to be connected into a continuous barrier.

The work also includes supplying connecting pins and furnishing and mounting retro-reflective delineators, per Subsection 526.03, on both Contractor-supplied and Authority-supplied temporary concrete barriers.

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

Maintenance Area	Linear Feet of Barrier
Crosby Maintenance Area Mile 46 Southbound	730

Upon substantial completion of work, the Contractor shall remove and transport the concrete barrier - supplied by Authority back to Crosby Maintenance Area.

526.02 Materials

The following paragraphs are added:

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

f. Connecting pins shall be a one inch diameter A36 steel hot rolled round rod that has a 4” long 180 degree bend at the top (“J” shaped). The rod shall be 2’-11” long pre-bend and 2’-7” long post bend.

526.021 Acceptance

The Resident shall have the authority to accept or reject all temporary concrete barrier Type I and temporary concrete barrier Type I – supplied by Authority used on the Project.

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.

Pins connecting the barrier shall be set flush with the top of the barrier.

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

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

Retro-Reflective Delineators shall be mounted as follows:

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

- If more than 25% of delineators in any 50 foot section of barrier fall off for any reason, the Contractor will be responsible for reinstalling all the delineators in that run at that their own cost.
- 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 and stacking of the barrier, the furnishing, installation and maintenance of the barrier delineators, and furnishing and installing connector pins will not be measured separately for payment, but shall be incidental to the cost of the Barrier. Temporary storage of Concrete Barrier between construction phases, if required, will not be measured separately for payment, but shall be incidental to the cost of the Barrier. All equipment required to load, unload, transport and stack Concrete Barrier shall be supplied by the Contractor.

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

526.05 Basis of Payment

The fifth paragraph is deleted and not replaced.

The following paragraphs are added:

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

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

Payment will be made under:

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 Turnpike interchange ramps and 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 35 mph for Turnpike interchange ramps and local roads and 65 mph for turnpike roadways unless otherwise noted on the Plans.

527.05 Basis of Payment

Payment will be made under:

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

SPECIAL PROVISION

SECTION 603

PIPE CULVERTS AND STORM DRAINS

(Reinforced Concrete Pipe)

603.01 Description

The following paragraphs are added:

This work shall also consist of furnishing and installing Class III reinforced concrete pipe at the locations as shown on the Plans or as approved by the Resident. These pipes shall meet the requirements of Subsection 706.02.

This work may also consist of furnishing and installing a concrete collar to join the existing concrete pipe to the proposed concrete pipe in accordance with the details as shown in the MaineDOT Standard Details. Concrete collars will only be required and paid for if the concrete pipe ends are of different sizes and do not fit snugly together.

At the Contractor's option, the Contractor may install dual walled HDPE drainage pipe to extend the existing RCP pipes. The connections to the existing RCP pipes shall be made with dual wall HDPE adapters and concrete collars as shown on the Plans.

603.11 Method of Measurement

The following paragraph is added:

Should the Contractor opt to install dual walled HDPE drainage pipe to extend the existing RCP pipes the dual walled HDPE pipe will be measured by the linear foot installed and accepted. The connections to the existing RCP pipes with dual wall HDPE adapters and concrete collars will not be measured separately but shall be incidental to the linear foot price.

Concrete collars used for connection of concrete pipe ends that are of different sizes and do not fit snugly together will not be measured for payment separately but shall be incidental to the concrete pipe linear foot price.

603.12 Basis of Payment

The following paragraphs are added:

Dual walled HDPE drainage pipe will be paid at the Contract unit price per linear foot for 30 inch Reinforced Concrete Pipe - Class III which will be full compensation for furnishing, installing, backfilling and compacting the dual walled HDPE drainage pipe. The dual wall HDPE adapters and concrete collars will not be paid separately but shall be incidental to the linear foot price.

Payment will be made under:

Pay Item		Pay Unit
603.205	30 inch Reinforced Concrete Pipe - Class III	Linear Foot

SPECIAL PROVISION

SECTION 604

MANHOLES, INLETS, AND CATCH BASINS

(Rebuild Catch Basin to Grade – Type B1)

604.01 Description

This Subsection is amended by the addition of the following:

This work shall consist of adjusting catch basins, drainage manholes and sewer manholes within the limits of work to grade in accordance with these Specifications or as approved by the Resident.

604.02 Materials

This Subsection is amended by the addition of the following:

The 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 ASTMC33 Grading 7.

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

The first paragraph, including Subparagraphs (b) and (c), are deleted and replaced with the following:

When adjusting the existing catch basins and manholes, they shall be dismantled sufficiently to allow reconstruction in accordance with the following requirements:

The existing frame and grate shall be removed, stacked if in servicable condition, or discarded if in unserviceable condition. Remove and discard all unsound concrete and anchor rods to sound concrete as determined by the Resident. Install two Number 4 dowels, twelve inches in length, in each sidewall, reform catch basin or manhole to necessary grade using AAA Concrete. Reset the existing serviceable frame and grate, or MTA supplied replacement frame and grate, to the finished pavement grade designated by the Resident.

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

604.06 Basis of Payment

The second paragraph is deleted and replaced with the following:

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

Payment will be made under:

Pay Item		Pay Unit
604.187	Rebuild Catch Basin to Grade – Type B1	Each

SPECIAL PROVISION

SECTION 604

MANHOLES, INLETS, AND CATCH BASINS

(Secure Catch Basin Grate)

604.01 Description

This work shall consist of removing existing catch basin grates in the existing four foot paved shoulder, cleaning existing frames, and furnishing and applying elastomeric sealer to frame seats. This work shall be completed prior to opening paved shoulders to traffic.

604.02 Materials

The following sentences are added:

New Catch Basin Grates shall be a square holed grate meeting or exceed the AASHTO M306 Loading Requirements and be manufactured by EJ Company of Brockton, Massachusetts (or an approved equal) with the following product number:

5520M5 Grate Product Number 00552060

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

604.03 Construction Requirements

The following paragraphs are added:

After removal of an existing grate, the frame shall be cleaned to accept elastomeric sealer. Sealer shall be placed in a continuous bead over horizontal and vertical surfaces in accordance with the manufacturer's recommendations. Installed grates shall be preloaded and allowed to set for a minimum of 1.5-hours before receiving traffic loads to assure adequate adhesion of the sealer.

Should the existing catch basin grate be cracked, broken or appear unserviceable the Contractor shall advise the Resident who arrange to obtain a replacement catch basin grate from MTA Maintenance for the Contractor to set and seal into the existing frame.

604.05 Method of Measurement

The following sentence is added:

Secure Catch Basin Grate will be measured for payment by each unit secured and accepted.

604.06 Basis of Payment

The following paragraphs are added:

The accepted quantity of Secure Catch Basin Grate will be paid for at the Contract unit price each. This price shall be full compensation for removing the existing grate, cleaning the horizontal and vertical surfaces, applying the elastomeric sealer, and all other labor, equipment, and materials required to complete the work.

Payment will be made under:

Pay Item		Pay Unit
604.40	Secure Catch Basin Grate	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Thrie Beam Bridge Attachment at Railing- Type III)
(Thrie Beam Bridge Attachment at Median- Type III)

606.01 Description

The following sentence is added:

This work shall consist of furnishing and installing Type III guardrail bridge attachments at bridge barrier terminal ends on bridges over the Turnpike.

The following Subsection is added:

606.071 Guardrail Attachments at Bridges

Thrie Beam Bridge Attachment - Type III shall be used at bridge barrier ends.

606.08 Method of Measurement

The following sentence is added:

Guardrail attachments will be measured by each unit of the type specified, installed and accepted.

606.09 Basis of Payment

The following paragraphs are added:

Thrie Beam Bridge Attachment at Railing - Type III and Thrie Beam Bridge Attachment at Median - 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, terminal connector, including terminal connector anchorage and all other detailed accessories; furnishing and installing all required posts, rails, offset brackets, 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	Thrie Beam Bridge Attachment at Railing- Type III	Each
606.1724	Thrie Beam Bridge Attachment at Median- Type III	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Guardrail Beam)

606.01 Description

The following paragraph is added:

This work shall consist of furnishing and installing proposed guardrail W-beam panels (RE-3) to replace existing damaged and rusty panels as approved by the Resident. The Contractor shall mark rail to be replaced for Resident's approval prior to the replacement of the rail.

606.02 Materials

The following sentence is added:

The materials for the W-beam panels shall conform to Subsection 710.04.

606.08 Method of Measurement

The following sentence is added:

Guardrail Beams shall be measured per linear foot installed and accepted.

606.09 Basis of Payment

The following paragraph is added:

The Guardrail Beams will be paid for at the Contract unit price per linear foot complete in place and shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work. This work shall consist of removing damaged W-beam panels, furnishing and installing the new W-beam panels, all hardware, nuts, bolts, washers, and all other items necessary to complete the installation and connection to the posts.

SPECIAL PROVISIONS

SECTION 606

GUARDRAIL

(Terminal End - Remove and Stack)

606.01 Description

The following paragraphs are added:

This work shall also include removing existing terminal ends, when designated, transporting and stacking them at the Crosby Maintenance Area, Mile 46 (SB) at a location designated by the Resident.

606.08 Method of Measurement

The following sentence is added:

Remove and Stack Terminal End will be measured for payment per each unit removed.

606.09 Basis of Payment

The following paragraphs are added:

The accepted quantity of Terminal Ends Removed and Stacked will be paid for at the Contract unit price each satisfactorily removed and stacked. This price shall be full compensation for removing all rails, posts, offset brackets, nuts, bolts, washers, hardware, all labor, transportation and all other incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
606.2652	Terminal End - Remove and Stack	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Terminal End - Anchored End)

606.01 Description

The following sentence is added:

This work shall also consist of furnishing and installing terminal end – anchored end, 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.

The offset bracket on the final post shall be wood to facilitate the attachment of the flexible delineator.

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.

606.08 Method of Measurement

The second paragraph is amended by the addition of: ", Terminal End - Anchored End," after the words "breakaway cable terminal".

606.09 Basis of Payment

The second paragraph is amended by the addition of: ", Terminal End - Anchored End," after the words "breakaway cable terminal".

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.

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 aluminum 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, complete in place, which price shall be full payment for furnishing and installing all components and for all incidentals necessary to complete the installation.

Payment will be made under:

Pay Item		Pay Unit
606.352	Reflectorized Beam Guardrail Delineator	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

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

606.01 Description

The following paragraphs are added:

This work shall also consist of furnishing and installing new delineator posts and/or removing and resetting existing delineator posts, and/or removing and stacking existing delineator posts within the Contract limits. The existing reflectorized delineator panels on reset posts shall be removed and replaced with new reflectorized delineator panels as required by the Resident.

Existing and reset delineator posts shall be located as follows:

Outside Shoulder:

- One at guardrail trailing ends (green delineator).
- Two at guardrail approach ends (red delineators at face end and first angle point, FLEAT red on traffic side).
- One at guardrail attachments to endposts (white delineator).

Median:

- One at guardrail trailing ends (green delineator).
- Two at guardrail approach ends (red delineators at face end and first angle point, CAT or FLEAT MT red on both sides).
- One at guardrail attachments to endposts (yellow delineator).

Other Locations:

- One at every 50 feet on interchange ramps (left shoulder - yellow delineator; right shoulder -white delineator).
- One at culvert outlets (red delineator).
- Twenty per mile evenly spaced at the edge of outside shoulder (white delineator).
- One at electrical junction boxes not associated with another item (blue 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.

Delineator posts shall be bolted to the back of the first wood post in the FLEAT 350's, CAT systems and FLEAT MT systems.

606.02 Materials

The following paragraphs are added:

Non-guardrail mounted delineator posts shall conform to Subsection 606.02.

Guardrail mounted delineator posts for the approach and departure ends of 350 compliant end treatments shall be fabricated of a flexible, durable, non-discoloring polyethylene plastic capable of recovering from repeated impacts and resistant to solar degradation. The posts shall be a minimum of 2-inches in diameter, shall be ovalized at the top of the post to allow application of reflective sheeting, and shall be a maximum length of 36 inches. Color of the guardrail delineator posts shall be grey. Posts shall be capped at the top with a flexible rubber cap; Safe-Hit Flexible Guardrail Delineator Post or approved equal.

Reflective sheeting shall be applied to the top of the post and the color of the sheeting shall be as described in section 606.01. Dimensions of sheeting shall be 3-inches by 8-inches and shall conform to ASTM Type XI; 3MTM Diamond GradeTM DG3 Reflective Sheeting Series 4000 or approved equal.

Guardrail delineator posts shall be fastened to guardrail posts with two fasteners. For wooden posts, two 3-inch by 3/8-inch lag screws with 5/8-inch flat washers shall be used. For steel guardrail posts, two self-drilling ¼-inch by 2 inch screws with 5/8-inch flat washers shall be used.

The demountable reflectorized delineator panel shall meet the requirements of Subsection 719.06. Delineator panel shall be rectangles measuring 8" x 3".

606.03 Posts

The following paragraphs are added:

The installation of delineator posts shall conform to Subsection 606.03 for guardrail delineator posts.

The top of delineator posts associated with guardrail shall be installed 5’-0” (60”) above edge of pavement elevation. White delineator posts for mile delineation shall be 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 post shall be mounted on breakaway supports. The bottom of the sign shall be five feet from 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 installed and accepted. Delineator Posts Removed and Reset will be measured by each unit satisfactorily reset.

Mile Marker post shall be measured for payment as Delineator Post.

606.09 Basis of Payment

The following sentences are added:

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

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

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

Payment will be made under:

Pay Item		Pay Unit
606.353	Delineator Post	Each
606.354	Delineator Post - Remove and Reset	Each
606.355	Delineator Post - Remove and Stack	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 existing guardrail elements, component parts and hardware modifying and resetting.

This work shall also consist of removing existing double rail guardrail elements, component parts and hardware; modifying and resetting guardrail elements, component parts and hardware as a single rail guardrail; stacking guardrail elements, component parts and hardware suitable for reuse; and disposing of guardrail elements, component parts and hardware not suitable for reuse.

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.

The following Subsection is added:

606.021 General

The modified guardrail shall be installed in accordance with the applicable provisions of the Standard Specifications.

The materials removed shall be utilized in the reset guardrail locations with the following exceptions:

- Existing guardrail posts found to be unfit for reuse, in the opinion of the Resident, prior to or upon pulling;
- Existing steel backup plates when present;
- Existing steel offset brackets shall be replaced with non-wood offset blocks; and,
- Existing W-beam rail elements damaged by traffic and unfit for reuse, in the opinion of the Resident.

This work shall include all modifications to the existing guardrail system that may be necessary to install new non-wood offset blocks including, but not necessarily limited to, the drilling of new holes in the existing posts and cleaning and painting holes with a cold-applied zinc-rich paint. The completed guardrail assembly shall conform to NCHRP 350 Test Level 3.

Existing guardrail components removed, but not reset because of damage, shall become the property of the Contractor. Any materials lost or damaged by the Contractor's operations shall be replaced at no additional cost to the Authority.

Earth around each reset post shall be raked and compacted with a minimum 8 pound hand tamper or an approved device. Holes created due to resetting a post shall be filled with a similar surrounding material and compacted.

606.08 Method of Measurement

The following paragraphs are added:

Guardrail – Remove, Modify and Reset will be measured on a linear foot basis, from center-of-post to center-of-post, for the amount of rail satisfactorily reset.

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 to be disposed 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 W-beam rail elements will be measured for payment.

The filling of voids created by driving the posts during the guardrail installation with berm dropoff correction materials will not be paid separately but shall be incidental to the guardrail pay item.

606.09 Basis of Payment

The following paragraphs are added:

The accepted quantity of Guardrail - Remove, Modify and Reset will be paid for at the Contract unit price bid per linear foot. Such payment shall be full compensation for removing, modifying, and resetting guardrail, drilling holes in existing posts, and all equipment, labor and incidentals necessary to complete the work including any necessary modifications to the existing posts.

Furnishing and installing non-wood offset blocks will not be measured separately for payment, but shall be incidental to Item 606.3605, Guardrail - Remove, Modify and Reset, Single Rail, or Item 606.3606, Guardrail - Remove, Modify and Reset, Double Rail.

New steel posts, when measured for payment, will be paid for under Item 606.48, Single Galvanized Steel Post.

New W-beam rail components, when measured for payment, will be paid for under Item 606.178, Guardrail Beam.

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 PROVISIONS

SECTION 606

GUARDRAIL

(Guardrail Adjust)

606.01 Description

The following paragraphs are added:

This work shall consist of adjusting the height of the existing single and double rail guardrail in locations where the existing height of rail is not 30 inches. The guardrail shall be adjusted to a height of 30 inches (+0”/ -1/2”). Existing single and double rail shall also be adjusted for lean.

The guardrail adjustment shall take place at all necessary locations; approximate locations are listed in the schedule of guardrail limits both median and outside shoulder. Exact locations for adjustment shall be determined by the Resident. If, during the course of the work, the Contractor finds additional rail to be adjusted, then he shall notify the Resident, and the Resident shall determine if the rail is to be adjusted.

The following Subsections are added:

606.021 General

All existing guardrail to be raised or lowered shall be completed prior to new guardrail or end treatments being attached. Transitions from existing guardrail set at 27 inches (+/- 1”) or bridge transitions set at 32 inches (+0”/ -1/2”) shall occur over 25 feet unless otherwise approved by the Resident.

606.036 Adjusting Existing Guardrail

Any materials or galvanizing damaged by the Contractor’s operations shall be replaced or touched-up at no additional cost to the Authority.

Guardrail posts shall be raised to a minimum of five inches above final elevation prior to driving post to final elevation; this applies to both raising and lowering rail.

Any given length of guardrail to be adjusted shall be done in such a way that top of rail elevations do not vary drastically between each section of guardrail. Rail height tolerance shall be 30 inches, plus 0 inches, minus ½ inch. The 30 inches shall be measured from the edge of pavement to the top of rail beam when within 2 feet of the edge of pavement.

Rail shall be straightened to be perpendicular with the roadway where needed.

When the rail tapers from one bound to the other the rail shall be adjusted to the correct height on the farthest ends and shall be adjusted towards the center of the median to create a smooth line.

Earth around each reset post shall be raked and compacted with a minimum 8 pound hand tamper or an approved device. Holes created due to resetting a post shall be filled with a similar surrounding material and compacted.

606.06 Method of Measurement

The following sentence is added:

Adjusting of both single and double rail guardrail shall be measured by the linear foot of Guardrail Adjusted and accepted.

606.09 Basis of Payment

The following paragraphs are added:

Adjusting of single and double rail guardrail will be paid for at the Contract unit price per linear foot and shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work. Rail will not be measured for payment until all compaction has been completed.

Payment will be made under:

Pay Item		Pay Unit
606.3621	Guardrail Adjust, Single Rail	Linear Foot

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Guardrail - Remove and Dispose)

606.01 Description

The following paragraph is added:

This work shall consist of removing, stockpiling and disposing of existing single and double guardrail elements, component parts and hardware unsuitable for replacement as approved by the Resident. At the completion of the Contract, any unused guardrail elements, posts, component parts and hardware shall become the property of the Contractor and shall be removed from Turnpike property.

606.08 Method of Measurement

The following paragraph is added:

Guardrail disposal will be measured on a linear foot basis of guardrail satisfactorily Removed and Disposed whether single rail or double rail. Double twisted end sections will be measured for payment on a linear foot basis as 25 feet of guardrail removed.

606.09 Basis of Payment

The following paragraphs are added:

The accepted quantity of guardrail removal will be paid for at the Contract unit price bid, which price shall be full compensation for removing, transporting and disposing all guardrail elements, component parts and hardware, equipment, labor and all incidentals necessary to complete the work. No additional payment will be made for double rail.

Stockpiling existing rail elements and posts will not be measured separately for payment, but shall be incidental to Item 606.3631.

Payment will be made under:

Pay Item		Pay Unit
606.3631	Guardrail - Remove and Dispose	Linear Foot

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Single Offset Block – W-Beam)

606.01 Description

The following paragraph is added:

This work shall consist of furnishing and installing single offset blocks at all existing guardrail beam locations that are not part of a remove, modify and reset location. New non-wood offset block will be installed on existing galvanized steel posts and connected to guardrail Type 3d.

606.02 Materials

The following sentence is added:

Offset block shall have passed NCHRP 350 Test Level 3 and shall not be wood.

The following Subsection is added:

606.021 General

The existing median guardrail posts have four off-center bolt holes used to attach the existing steel offset blocks. The new offset blocks have two bolt holes centered on the W-beam section. The existing posts must be retrofitted to receive the new non-wood offset block assembly. Additional bolt holes required in the existing posts shall be drilled or punched but the size shall not exceed the dimension given by the manufacture. Metal around the holes shall be cleaned and painted with a cold-applied zinc-rich paint. The holes shall not be burned with a torch.

The completed guardrail system shall be in conformance with the NCHRP 350 Test Level 3 requirements.

606.08 Method of Measurement

The following paragraph is added:

Single Offset Block shall be measured per each unit installed and accepted. All equipment and labor associated with retrofitting the existing posts shall be incidental to Item 606.471.

606.09 Basis of Payment

The following paragraph is added:

New Single Offset Block furnished and installed at specified locations will be paid for at the Contract unit price each complete in place and accepted. Payment shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work including, but not necessarily limited to, removal of existing rail beam, removal and disposal of existing offset block, drilling new holes in existing post, application of galvanized paint, furnishing and installing new non-wood offset block, removal and disposal of back-up plates, and resetting the rail beam.

Payment will be made under:

Pay Item		Pay Unit
606.471	Single Offset Block – W-Beam	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Asymmetrical Thrie Beam Transition)

606.01 Description

The following paragraph is added:

This work shall consist of removing and stacking existing thrie beam transition panels, furnishing and installing the asymmetrical thrie beam to W-beam transition, single rail - modified section and double rail modified section, connecting it to the existing or proposed W-Beam guardrail and thrie beam modified at locations on the Maine Turnpike, as shown on the Plans or as approved by the Resident. All guardrail components shall have passed the NCHRP 350 Test Level 3. Composite offset blocks shall be used.

606.08 Method of Measurement

The following sentence is added:

Asymmetrical Thrie Beam Transition shall be measured by each unit installed and accepted. The double rail transition consists of two units, one on each side.

606.09 Basis of Payment

The following paragraphs are added:

Asymmetrical Thrie Beam Transition 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, furnishing and installing the Asymmetrical Thrie Beam to W-beam Transition, Single Rail - Modified section and Double Rail – Modified Section, and all detailed accessories; furnishing and installing all required posts, modified steel, wood or composite offset blocks, cables, nuts, bolts, washers, and all other items necessary to complete the installation and connection to the existing or proposed W-Beam and the Thrie Beam – Modified.

Payment will be made under:

Pay Item		Pay Unit
606.701	Asymmetrical Thrie Beam Transition	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Guardrail 350 FLEAT Terminal – Remove and Reset)
(Guardrail 350 FLEAT Terminal – Remove and Stack)

606.01 Description

The following sentences are added:

This work shall also consist of furnishing and installing a Guardrail 350 FLEAT (Flared Energy Absorbing Terminal) as manufactured by Road Systems, Inc., 1507 East 4th Street, Big Spring, Texas 79720, (915) 263-2435, and retroreflective adhesive sheeting in accordance with these Specifications 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 consist of removing, storing during construction and resetting existing FLEATs.

This work shall also consist of removing, site restoration, and stacking existing Guardrail -350 FLEAT Terminal as shown on the Contract Documents. All salvageable components of the Guardrail – 350 FLEAT Terminal shall be stacked at the Crosby Maintenance Facility at MM 46 Southbound in a location designated by the Resident.

606.02 Materials

The following sentence is added:

The retroreflective sheeting shall meet the requirements of Subsection 719.01, Reflective Sheeting – Minimum ASTM, Type VII.

The following Subsections are added:

606.03 Posts

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

606.041 Reflective Sheeting

The color for the reflective sheeting shall be silver (white) when installed on the outside shoulder.

606.08 Method of Measurement

The second paragraph is amended by the addition of: “Guardrail 350 FLEAT Terminal” after the words “breakaway cable terminal”.

Guardrail 350 FLEAT Terminal – Remove and Reset will be measured by each unit satisfactorily reset complete in place and accepted.

Guardrail 350 FLEAT Terminal – Remove and Stack will be measured by each unit satisfactorily removed and stacked at Crosby Maintenance Facility.

606.09 Basis of Payment

The second paragraph is amended by the addition of: “and Guardrail 350 FLEAT Terminal” after the words “breakaway cable terminal”.

Guardrail 350 FLEAT Terminal – Remove and Reset will be paid for at the Contract unit price, complete in place and accepted. Payment shall be full compensation for all labor, equipment, materials and incidentals necessary to remove, store during construction and reset in accordance with the Plans and Specifications.

Guardrail 350 FLEAT Terminal – Remove and Stack will be paid for at the Contract unit price, stacked and accepted. Payment shall be full compensation for all labor, equipment, materials and incidentals necessary to remove, store during construction and Stacking in accordance with the Plans and Specifications.

The retroreflective sheeting will not be measured separately for payment, but shall be incidental to the Guardrail 350 FLEAT Terminal item.

Payment will be made under:

Pay Item		Pay Unit
606.81	Guardrail 350 FLEAT Terminal – Remove and Reset	Each
606.93	Guardrail 350 FLEAT Terminal – Remove and Stack	Each

SPECIAL PROVISION

SECTION 607

FENCES

(Snow Fence)

607.01 Description

The following sentence is added:

The work shall include the installation of snow fence on the bridges specified within the limits and locations shown on the Plans.

607.02 Materials

The following paragraph is added:

The snow fence shall consist of galvanized chain link fence mesh and frame at a height shown on the Plans. Posts and rails shall be SS-40 galvanized metal of the size shown on the Plans. The chain link fence and the posts shall be connected to the vertical bridge rail posts via U-bolts as shown on the Plans. All accessories such as corner clamps, end caps, bars, tension members, fasteners, tie wire, etc. shall be galvanized.

607.06 Method of Measurement

The following paragraph is added:

Snow Fence will be measured by the linear foot accepted in place. Removal of the existing wood slat snow fence will not be measured separately, but shall be incidental to the Snow Fence item.

607.07 Basis of Payment

The accepted quantities of Snow Fence shall be paid for at the contract unit price per foot of Snow Fence. Payment shall be full compensation for furnishing and installing all materials as shown on the Plans including labor tools and incidentals required to complete the installation.

Payment will be made under:

Pay Item		Pay Unit
607.4311	Snow Fence – Running Hill Road Bridge (3-Bar)	Linear Foot
607.4312	Snow Fence – Warren Avenue Bridges (2-Bar)	Linear Foot
607.4313	Snow Fence – Auburn Street Bridge (2-Bar)	Linear Foot

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 618

SEEDING

(Seeding Method Number 2)

618.12 Basis of Payment

Payment will be made under:

Pay Item		Pay Unit
618.14	Seeding Method Number 2	Unit

SPECIAL PROVISION

SECTION 619

MULCH

(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".

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 upstation and downstation 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.

619.04 Applying Mulch

The third paragraph is deleted and replaced with the following:

Newly disturbed earth and ditches shall be mulched or otherwise stabilized by the end of each work day and maintained on a daily basis as described in Subsection 105.8.1.11 (b) in the Special Provisions. 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.

619.06 Method of Measurement

The following sentence is added:

Temporary Mulch will be paid for by the lump sum.

619.07 Basis of Payment

The following paragraphs are added:

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

Payment will be made under:

Pay Item		Pay Unit
619.1202	Temporary Mulch	Lump Sum

SPECIAL PROVISION

SECTION 626

FOUNDATIONS, CONDUIT, AND JUNCTION BOXES
FOR HIGHWAY SIGNING, LIGHTING AND SIGNALS

(Quazite Junction Box)
(Relocate Quazite Junction Box)

626.02 General

The following paragraphs are added:

Junction boxes for the site electrical and signal pre-emption loop systems shall be polymer concrete as manufactured by QUAZITE® a division of Hubbell Power Systems. The boxes shall be 36" x 24" and 21" deep and shall have the word ELECTRICAL on all but the traffic pre-emption loop boxes which shall have the word TRAFFIC on the cover. The boxes shall have an 8,000 lb. load rating.

Existing QUAZITE® Junction Boxes in useable condition shall be removed and relocated as directed by the Resident Engineer.

626.04 Method of Measurement

The following sentence is added:

Quazite Junction Box and Remove and Relocate Quazite Junction Box shall be measured by each unit.

Precast Concrete Junction Box and Remove and Relocate Precast Concrete Junction Box shall be measured by each unit.

626.05 Basis of Payment

The words, "polymer concrete" shall be added after the words, "precast concrete" in the second sentence of the second paragraph.

Payment will be made under:

Pay Item		Pay Unit
626.12	Quazite Junction Box	Each
626.13	Remove and Relocate Quazite Junction Box	Each
626.14	Remove and Relocate Precast Junction Box	Each

SPECIAL PROVISION

SECTION 626

FOUNDATIONS, CONDUIT AND JUNCTION BOXES
FOR HIGHWAY SIGNING, LIGHTING AND SIGNALS

(Aluminum Junction Box)
(Metallic Conduit)

626.01 Description

The following paragraph is added:

This work shall consist of furnishing and installing two 2 inch galvanized rigid metal conduits under the MCRR bridges as shown on the Plans; and terminating the conduits in aluminum junction boxes at the end of the structure. The conduit shall be offset from the fascia girder web sufficiently to have conduits by pass all diaphragm connection plates and bridge bearing stiffeners. The work shall be completed in accordance with the Specifications, in reasonably close conformity with the lines and grades shown on the Plans or as approved by the Resident.

626.02 General

All equipment and materials covered by referenced Specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable Specification when so requested by the Resident.

All conduit, along with all fittings and connections, junction boxes, and offset brackets shall be provided by the Contractor. The materials will meet the following Specifications:

Steel Conduit and Couplings shall be two inch Hot Dip Galvanized Steel Schedule 40 conduit conforming to the requirements of ASTM A53.

Offset brackets shall be W6x9 hot dip galvanized guardrail steel offset blocks, or approved equal.

Threaded fasteners for attaching offset blocks shall be ½ diameter A325 hot dip galvanized nuts, bolts and washers.

Metal framing channel and channel pipe straps shall be 1 ¾ inch hot dip galvanized Unistrut, or approved equal.

Junction boxes shall be 10" x 12" x 5" Type 4X Aluminum Junction Boxes – 1414 N4 AL Series as furnished by Hammond Manufacturing Company Inc., or approved equal.

Miscellaneous fasteners shall stainless steel or be hot dip galvanized.

626.035 General

The Contractor shall furnish and install conduits on the inside web of the specified bridge fascia girder terminating the conduits in an aluminum junction box at each end of the structure.

Conduits between the abutment and pier 1, and pier 2 and the abutment may be installed off ladders, manlifts, or similar equipment provided the installation does not the local road. Conduits between piers 1 and 2, and at any other location shall be installed from the local road or with a bridge overhang machine and local road traffic control.

Pull wires shall be installed in the conduits, terminating in the junction boxes.

626.04 Method of Measurement

The following sentences are added:

Aluminum junction boxes shall be measured for payment by the each complete in place and accepted.

Metallic Conduit - 2 Inch Rigid Galvanized shall be measured for payment by the linear foot complete in place and accepted.

626.06 Basis of Payment

The following paragraphs are added:

The accepted quantity of Aluminum Junction Boxes shall be paid for at the Contract unit price per each. Payment shall include all materials, fittings and connections, labor, equipment and incidentals necessary to complete the work as specified herein or as shown on the Plans.

The accepted quantity of Metallic Conduit - 2 Inch Rigid Galvanized shall be paid for at the Contract unit price per linear foot. Payment shall include all materials, fittings and connections, offset blocks, metal framing channel and channel pipe straps, pull wires, labor, equipment and incidentals necessary to complete the work as specified herein or as shown on the Plans.

Payment will be made under:

Pay Item		Pay Unit
626.112	Aluminum Junction Box	Each
626.212	Metallic Conduit – 2 Inch Rigid Galvanized	Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Recessed Pavement Marking Tape)

627.01 Description

The following sentence is added:

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

627.02 Materials

The following sentence is added:

Pavement Marking Tape for supplemental lane markings between travel lanes shall be 3M Tape Series 380AW – High Performance pavement marking tape, color- white, six (6) inch wide, as manufactured by 3M of St. Paul, Minnesota.

Pavement Marking Tape for dotted acceleration/de-acceleration lane markings shall be 3M Stamark Extended Season Tape Series 380IES– High Performance pavement marking tape, color- white, eight (8) inch wide, as manufactured by 3M of St. Paul, Minnesota.

Pavement Marking Tape for dotted turning movement lane markings shall be 3M Stamark Extended Season Tape Series 380IES– High Performance pavement marking tape, color- yellow, six (6) inch wide, as manufactured by 3M of St. Paul, Minnesota.

Pavement Marking Tape for lane designation words, arrows, and stop bars shall be pre-cut by the manufacturer, and shall be 3M Stamark Extended Season Tape Series 380IES– High Performance pavement marking tape, color - white, as manufactured by 3M of St. Paul, Minnesota.

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

627.04 General

The following paragraphs are added:

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

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

The recessed tape used to mark a Dotted Yellow Lane Line (DYLL) shall be installed on a radius from the Skyway Drive solid yellow centerline into the Exit 46 toll plazas (Northbound on and Southbound on) as noted on the Plans. Layout data is noted on the drawings. Yellow Lane Line tape shall be three (3) foot in length and shall be spaced nine (9) feet apart. Spacing from the Solid Yellow Centerline shall be nine (9) feet.

627.05 Preparation of Surface

The following paragraph is added:

The Contractor shall mill a groove in the pavement for each tape length or area to be placed ("in- and-out" pattern). Continuous grooving for installation of the tape shall not be allowed. The groove length shall be the required tape length plus 12 inches on each end. Tape length spacing shall be as shown on the plans. The groove width for inlaid tape pavement marking shall be the pavement marking width plus 1 inch, with a tolerance of ± ¼ inch. The groove width for inlaid tape pavement areas shall be the pavement marking width plus 3 inches, with a tolerance of ± 1 inch. The groove shall have a uniform depth of 150 Mils (±20 Mils). Groove position shall be a minimum of 2 inches from the edge of the pavement marking to the longitudinal pavement joint.

The bottom of the groove shall have a smooth, flat finished surface. The use of gang stacked Diamond cutting blades is required for asphalt pavement surfaces. The spacers between blade cuts shall be such that there will be less than a 10 mil rise in the finished groove between the blades.

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

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

627.09 Method of Measurements

The following paragraph is added:

The accepted quantity of Pavement Marking Line – Recessed Tape will be measured for payment by the linear foot in place and accepted. The measurement will not include the gaps.

The accepted quantity of Pavement Markings – Recessed Tape – Words, Arrows, Stop Bars will be measured for payment by the square foot in place and accepted. The square foot areas of the Words and Arrows will be the areas posted in the Pavement Marking section of the MaineDOT Standard Details.

627.10 Basis of Payment

The following paragraphs are added:

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

The white, eight (8) inch wide Dotted White Lane Line (DWLL) installed on parallel deceleration lane at Exit 44 shall be paid under Item 627.94 Pavement Marking Line – Recessed Tape, Broken White Lane Line, 6-inch width.

The yellow, six (6) inch wide Dotted Yellow Lane Line (DYLL) installed for turning movements at Exit 46 shall be paid under Item 627.94 Pavement Marking Line – Recessed Tape, Broken White Lane Line, 6-inch width.

The accepted quantity of Pavement Markings – Recessed Tape - Words, Arrows, Stop Bars will be paid for at the Contract unit price per square foot which price shall include all material, pavement grooving, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
627.94	Pavement Marking Line – Recessed Tape, Broken White Lane Line, 6-inch width	Linear Foot
627.943	Pavement Marking Line – Recessed Tape, Solid White or Yellow Lane Line, 6-inch width	Linear Foot
627.944	Pavement Markings – Recessed Tape – Words, Arrows, Stop Bars	Square Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Preformed Pavement Marking Tape Symbols, Hot Inlay Installation)

All work and materials shall conform to the Contract Drawings and the provisions of the State of Maine Department of Transportation Standard Specifications, Revision December 2002, SECTION 627 – PAVING MARKINGS, with the following additions and modifications:

Section 627.01Description

The following paragraph is added:

This work shall consist of furnishing and applying pavement marking tape as a hot inlay during rolling of the final pavement lift, at locations shown in the Plans.

Section 627.02Materials

The following paragraphs are added:

The tape shall be Pre-Formed Pre-Patterned Pavement Marking Material with a high retroreflective surface and capable of withstanding wet, dry, and freezing conditions. The patterned surface shall provide a near vertical profile to the motorist to maximize retroreflectance and shall contain a pliant polymer layer for long term durability. Contractor shall submit the material specifications to the Resident for review and approval.

Pavement Marking Tape:

Manufacturer: 3M of St. Paul, MN (www.3m.com) or approved equal.
Product: Stamark High Performance Tape Series 380IES or approved equal.
Color: White lines, yellow lines, and white symbols
Retroreflectance: No less 500 mcd/lux/m^2 for white tape; No less than 300 mcd/lux/m^2 for yellow tape.

Section 627.03 Installation

The following paragraphs are added:

Pavement markings shall be stored in a dry secured location prior to installation. The Contractor shall provide two layout-only persons dedicated to layout and to pre-mark the road. A separate crew of two persons shall be dedicated to symbols. Pavement markings shall be installed per the manufacturer's recommendations and in the presence of the Resident and the manufacturer's representative along with the following procedures:

Pavement Markings – Hot Inlay:

1. Prior to the installation of inlay pavement markings, the Contractor shall hold a pre-installation meeting in order to coordinate the hot mix asphalt pull width scheme to ensure that the pavement marking tape installation will be offset from asphalt seams by at least 4 inches. This pre-installation meeting will include the paving contractor, the striping contractor, the Resident, and may also include a tape manufacturer's representative
2. Install pavement. Pave lanes so that the tape will not be placed on the asphalt seams between lanes.
3. Compact the fresh asphalt.
4. Premark the road.
5. Test the asphalt surface. The pavement surface must be soft enough to allow the marking to be inlaid by the steel-drum finishing roller. The surface temperature of the asphalt should be between 130 degrees F and 160 degrees F. The tape shall be applied during the final compaction, and rolled slowly into the HMA by the finish roller with no vibration and minimal water use. The tape shall be inlaid while the surface temperature is within the manufacturer's recommended guidelines without disruption to the compaction process
6. Lubricate the tape applicator and thread the tape.
7. Apply the tape. Use the Manual Highway Tape Applicator.
8. Press the tape into the pavement. Using a tandem steel-drum finishing roller (no vibration), slowly roll over the tape to press (inlay) it into the warm pavement surface. The tape should always be rolled (first pass) in the same direction it was applied. The speed of the finishing roller should be kept to less than 3 mph when rolling over the tape during the first pass. Use a minimum amount of water to clean and lubricate the steel drums during the inlay operation. The target embedment depth is approximately 50 to 60 percent of the tape's thickness below the asphalt surface.
9. Inspect the installed product for delaminations and repair or replace as necessary.
10. Open the road to traffic.

Section 627.081 Warranty

The following paragraphs are added:

General Warranty Information:

The Contractor shall warranty for the first year that 95% of the installation will remain intact and serviceable. It shall show no fading, lifting, shrinking, tearing, rollback, distortion or chipping due to vehicular traffic or normal maintenance activities including snow plowing. Although some wear is expected, the marking shall not wear out prematurely. Determination of percentages of serviceability and minimum reflective values will be made jointly at the end of one year by the Contractor's representative and the Resident. The decision of the Resident shall be final.

A visual night inspection must be made with a manufacturer's representative and a customer representative present to identify areas of the installation which appear to be below the minimum retained reflectance values of 150 millicandelas per lux per square meter. Areas

which appear to be below the minimum retained reflectance value shall be identified and corrected to the satisfaction of the Resident.

Such failures must be solely the result of design or manufacturing defects in the pavement marking material and not of outside causes such as improper installation or substrate failure. Failure to follow recommended application procedures will void this warranty.

The Contractor shall replace, entirely at the Contractor's expense, such amount of markings, if any, required to meet the above stated percentage. The Resident will indicate the areas and lines to be replaced to meet the above stated percentages. The Contractor will also replace those markings that fail the minimum value for reflectance. Replacement under either situation shall include all materials, equipment, labor, and work incidental thereto.

The Contractor shall provide the Authority, at no extra cost, any manufacturer's warranties or guarantees that exceed the minimum requirements stated previously, that are normally provided by the manufacturer. These warranties shall be provided when the documentation of the product is provided. The warranties will be retained by the Maine Turnpike Authority.

Inlay Application:

The manufacturer shall warrant that pavement marking material sold for lines installed in Maine will remain effective for its intended use under normal traffic conditions for no less than four years, and that material sold for symbols remain effective for no less than two years, and shall meet the minimum retained coefficient of retroreflection value of 150 millicandelas per lux per square meter (measured at 1.05 degrees observation and 88.76 degrees entrance angles). The entrance angle and observation angle simulate a driver viewing geometry at a 30-meter distance.

If the pavement markings are applied in accordance with the manufacturer's application recommendations and fail during the warranty period, fail to adhere to the roadway, or fail due to complete wear-through during the warranty period described above (from the date of installation), the manufacturer's sole responsibility and purchaser's and user's exclusive remedy shall be that the manufacturer will provide the replacement materials that will restore the pavement marking retroreflectivity values to warranty levels or greater.

Section 627.09 Method of Measurement

The following paragraphs are added:

Preformed Pavement Marking Tape Symbols, Hot Inlay Installation shall be measured by the square foot.

Section 627.10 Basis of Payment

The following paragraphs are added:

Preformed Pavement Marking Tape Symbols, Hot Inlay Installation shall be paid for at the Contract square foot price, and shall include all labor, material, and equipment necessary to complete the work.

Payment will be made under the following Pay Item:

Pay Item		Pay Unit
627.4074	Preformed Pavement Marking Tape Symbols, Hot Inlay Installation	SF

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

627.01 Description

The following sentences are added:

This work shall consist of furnishing and placing the final pavement markings at portions of Exit 44, 45 and 46 as shown on the plans, or as designated by the Resident.

The final pavement marking lines on Exit 46 Bridge shall be painted, four inches wide, white or yellow markings, as shown on the plans. The final pavement marking lines on Exit 45 Bridge and Exit 46 Interchange shall be painted, six inches wide, white or yellow markings, as shown on the plans. The pavement markings for the gore at Exit 44 northbound shall be painted, 12 inches wide, white markings, as shown on the plans.

627.02 Materials

This Subsection is deleted and replaced with the following:

Temporary pavement marking paint shall be 100% acrylic, low VOC, fast drying, white and yellow waterborne traffic paint.

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

627.09 Method of Measurement

The following sentence is added:

The final pavement marking lines on Exit 44, 45 and 46 will be measured for payment by the linear foot along the centerline stationing of the roadway.

627.10 Basis of Payment

The following paragraphs are added:

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

Payment will be made under:

Pay Item		Pay Unit
627.181	12 Inch Solid White Pavement Marking Line	Linear Foot
627.712	4 Inch White or Yellow Painted Pavement Marking Line	Linear Foot
627.7121	6 Inch White or Yellow Painted Pavement Marking Line	Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary Pavement Markings - 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
627.72	Temporary 4 Inch Pavement Marking Tape, White or Yellow	Linear Foot
627.73	Temporary 6 Inch Pavement Marking Tape, White or Yellow	Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary 6 Inch Black Pavement Marking Tape)

627.01 Description

The following sentence is added:

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

627.02 Materials

The following paragraph is added:

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

627.04 General

The following paragraphs are added:

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

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

Temporary pavement markings shall consist of applying six inch solid black pavement marking tape for traffic maintenance during construction as shown on the Plans or as directed by the Resident. The tape shall be cut to the varying lengths necessary to cover the conflicting painted pavement marking.

Temporary pavement marking tape that 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 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 placed. 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 installed, which price shall include furnishing, installing, maintaining and removing the temporary tape and all materials, labor, equipment and incidentals necessary to accomplish the work. Replacement of 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
627.731	Temporary 6 Inch Black Pavement Marking Tape	Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary Painted Pavement Markings)

627.01 Description

The following paragraphs are added:

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

Lines on the Turnpike shall be six inches wide. Lines on local roads shall be four inches wide.

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

627.02 Materials

This Subsection is deleted and replaced with the following:

Temporary pavement marking paint shall be 100% acrylic, low VOC, fast drying, white and yellow waterborne traffic paint.

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

627.04 General

The third paragraph is deleted and replaced with the following:

Broken lines shall consist of alternate 15 foot painted line segments and 25 foot gaps.

627.09 Method of Measurement

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

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

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

627.10 Basis of Payment

The following paragraphs are added:

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

Payment will be made under:

Pay Item		Pay Unit
627.68	Temporary 4 Inch Painted Pavement Marking Line, Yellow or White	Linear Foot
627.681	Temporary 6 Inch Painted Pavement Marking Line, Yellow or White	Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary Raised Pavement Markers)

627.01 Description

The following sentences are added:

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

Temporary raised pavement markings may be used to delineate travel lanes after placement of pavement.

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, or two way, markers (Type Tom W-1, Y-1, Y-2, Grade WZ) as distributed by Davidson Plastics Co. (DAPCO), Kent, WA, or an approved equal. Colors shall conform to MUTCD requirements.

627.04 General

The following sentence is added:

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.

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 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 631

EQUIPMENT RENTAL

(Welding Machine – Including Operators)

621.01 Description

This work shall consist of furnishing and operating construction equipment as directed by the Resident. Welding Machine (including operators) shall be used by the Resident for field welding of bridge joint modifications that are not otherwise included in the work of other contract items.

631.02 General

Equipment used for work under this section shall conform to the following minimum sets of requirements:

Equipment

The equipment requirements for the Welding Machine (including operators) are truck or trailer mounted 225 AC/DC 120/240 SMAW/FCAW welding machine with 120/240 V electrical generating capacity (Miller Bobcat 225 AC Welder/Generator or equal), 100 feet of welding leads, 100 feet of 10/3 electrical cord; an oxy-acetylene torch setup with heating and cutting tips; 4 ½ and 7 inch grinders, ½ inch electric drill, and a rotabroach cutter style magnetic drill.

The welding machine operator shall be an AWS D1.5 certified welder in all positions. The welding machine helper shall be a skilled laborer with experience in drilling, cutting, grinding, metal preparation and metal fit-up.

Consumables (welding rod, oxygen, acetylene, grinding wheels, drill bits, rotabroach cutters, etc, will be reimbursed at cost plus 15%.

Payment will be made under:

Pay Item		Pay Unit
631.40	Welding Machine (including operators)	Hour

SPECIAL PROVISION

SECTION 634

HIGHWAY LIGHTING

(Replacement LED Fixture)
(Remove and Reset Light Standard)

634.01 Description

The following paragraph is added:

This work shall consist of removing existing light standards, luminaires, and any breakaway devices and resetting with all associated appurtenances and wiring system on to new concrete foundations at locations as shown on the Plans. Luminaires of reset light standards shall be replaced with LED fixtures. All new light standards will be 35 feet tall with 2 foot riser and a 12 foot offset arm. All highway lights shall be installed so the LED fixture is centered over the shoulder lane line (right or left) for maintenance purposes.

634.021 Materials

The following paragraphs are added:

Underground junction boxes shall be precast concrete per Section 626. All pull boxes are to be furnished as detailed on the Drawings.

Splices in junction boxes shall be made with ILSCO USPA-350-SS-DB Safetysub Watertight Direct Bury Splice Wire Range 350MCM-10-STR connectors for the appropriate wire count only. Splices in hand holes shall be Ideal SLK Disconnect Fuse Kit 30-S2212.

LED fixtures shall be one of the following:

- Satellite series Model #'s SAT-96M-7-T3-525-GY-1-A-NS, as manufactured by LED Roadway Lighting of Halifax, Nova Scotia; (877) 533-5755

- LEDway Streetlight #STR LWY 3M HT 08 E UH SV 525, as manufactured by CREE, Inc., 4600 Silicon Drive, Durham, NC 27703.

634.04 Cable Installation

The reset light standards shall be wired with new wiring.

634.051 Removing Light Standards

The first paragraph is deleted and replaced with the following:

Before removing light standards, the luminaires shall be removed from the light standard and stacked.

The second paragraph is deleted and replaced with the following:

Care shall be exercised in removing, transporting and stacking the light standards and luminaires. The Contractor will be required to replace, at his own expense, all equipment damaged or destroyed by his operation.

The Contractor will not be allowed to remove the existing light standards until all new foundations, wiring, conduits and junction boxes have been installed. Breakaway devices shall be required on all proposed light standards. If breakaway devices do not exist on the existing light standard, new breakaway devices shall be supplied and installed. The Contractor will be allowed one (1) working day to remove and reset the light standards, including replacing luminaires and testing. Ramps shall otherwise be lighted on a nightly basis.

634.06 Luminaires

In the second paragraph "12" is replaced with "10" and "THHN" replaced with "XHHW" to read:

"Number 10 wires AWG copper stranded XHHW...".

634.092 Method of Measurement

The following sentences are added:

Replacement LED Fixture, Remove and Reset Light Standards and Conventional Light Standard with LED Fixture will be measured by the single unit, complete in place and accepted.

634.093 Basis of Payment

In the second sentence of the first paragraph, the words, "LED fixture, pole wiring" shall be added after the words, "bracket arm".

The following paragraphs are added:

Payment for furnishing and installing Replacement LED Fixtures will be made for the accepted quantity at the Contract unit price each, which shall include luminaire, ballast, lamp and incidentals necessary to complete the work.

The accepted quantity of Remove and Reset Light Standard will be paid at the Contract unit price each for the number of units that are removed and reset. Payment shall be full compensation for the removal and resetting of the light standard, removing and stacking luminaires, resetting the breakaway device or furnishing and installing a new breakaway device, new pole wiring to the new LED fixture and all incidentals necessary to complete the work.

The accepted quantity of Conventional Light Standard with LED Fixture will be paid for at the Contract unit price per each for the number of units installed. Payment shall be full compensation for the light standard, breakaway device, bracket arm, pole wiring, LED Fixture, and all incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
634.175	Replacement LED Fixture	Each
634.208	Remove and Reset Light Standard	Each
634.2154	#4 AWG THHN Wire	Linear Foot
634.2156	#6 AWG THHN Wire	Linear Foot

SPECIAL PROVISION

SECTION 634

HIGHWAY LIGHTING

(Remove and Reset Light Fixture)

634.01 Description

The following paragraphs are added:

Highway lighting work shall be completed at the following locations:

Maine Turnpike Interchange 46 Pavment Rehabilitation : Work shall consist of removing, resetting where feasible, or replacing existing quazite junction boxes; abandoning existing prewired conduit; installing new 2 inch non-metallic conduit with electrical wire; removing, resetting where feasible, or replacing existing light standard foundations; removing and resetting select light standards; and replacing all existing high pressure sodium luminaires with LED luminaires of equivalent lumens; with all associated appurtenances and wiring system as shown on the Plans.

634.021 Materials

The following paragraph is added:

Underground pull boxes shall by as manufactured of polymer concrete by (QUAZITE), a division of Strongwell. Provide manufacturer's listed cover for each top box with logo stating "ELECTRICAL". All pull boxes are to be furnished with concrete "ring" as detailed on the Drawings.

634.04 Cable Installations

The reset light fixtures shall be wired to the same circuit as the existing lights are wired.

634.051 Removing Light Standards

The first paragraph is deleted and replaced with the following:

Before removing light standards, the luminaires shall be removed from the light standard and stacked.

The second paragraph is deleted and replaced with the following:

Care shall be exercised in removing, transporting and stacking the light standards and luminaires. The Contractor will be required to replace, at his own expense, all equipment damaged or destroyed by his operation.

The Contractor will not be allowed to remove the existing light standards until all new foundations, wiring, conduits and junction boxes have been installed. The Contractor will then be allowed one working day to remove and reset the light standards, including resetting luminaires and testing.

634.06 Luminaires

In the second paragraph "12" is replaced with "10" and "THHN" replaced with "XHHW" to read:

"Number 10 wires AWG copper stranded XHHW …"

634.092 Method of Measurement

The following sentence is added:

Removal and resetting light standards will be measured by the single unit, complete in place and accepted.

634.093 Basis of Payment

The following paragraphs are added:

The accepted quantity of light standards will be paid at the Contract unit price each for the number of units that are removed and reset. Payment shall be full compensation for the removal and resetting of the light standard, including luminaires, breakaway device reset and all incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
634.208	Remove and Reset Light Standard	Each

SPECIAL PROVISION

SECTION 643

TRAFFIC SIGNALS

(Preemptive Traffic Loops)

643.01 Description

The following is added after the first paragraph:

This work shall consist of installing one preemption traffic loop (6'x6') and lead-ins from the proposed loop to the existing junction box on the outside shoulder at the Exit 46 northbound off ramp and at the Exit 46 southbound off ramp. The location of the proposed loops is shown on the Plans.

This work also consists of removing, temporarily storing, and re-installing the existing preemption traffic loop lead-in wire from the existing junction box on the outside shoulder at the Exit 46 southbound off ramp back to the traffic controller cabinet adjacent to Skyway Drive.

643.03 General

This Subsection is amended by the addition to the following after the first paragraph:

The Contractor shall install the new preemptive traffic loops and lead-ins prior to final lift of pavement being placed. The loops shall be cut into the mill and fill pavement surface as shown in the Detail.

643.05 Preemptive Loop Detector Wire Installation

The following sentence is added to the second paragraph:

The pre-emption loop detector wire shall have the required number of turns as specified by the manufacturer.

The traffic pre-emption loop shall be a 6 foot by 6 foot presence loop. The loop shall be installed in the binder course of pavement.

Prior to acceptance and payment for the work the Contractor shall demonstrate the pre-emption loops are working properly in the traffic controller cabinets (loops trigger a change in the signal sequence to clear traffic off of the departing ramp(s).

643.18 Method of Measurement

The third paragraph is deleted and replaced with the following:

The Preemptive Traffic Loops and lead-ins will be measured for payment per each, satisfactorily installed and operational. Per each includes one loop and lead-in from the ramp lane to the existing junction box.

No separate payment will be made for removing, temporarily storing, and re-installing the existing preemption traffic loop lead-in wire from the existing junction box on the outside shoulder at the Exit 46 southbound off ramp back to the traffic controller cabinet adjacent to Skyway Drive. This work shall be incidental to Item 643.713, Preemptive Traffic Loops.

No separate payment will be made for the additional number of turns specified by the manufacture for the preemptive traffic loop detector wire, but the additional length shall be incidental to Item 643.713, Preemptive Traffic Loops.

No separate payment will be made for removal of the existing loop wiring or removal of the existing sealing compound, but shall be as incidental to Item 643.713, Preemptive Traffic Loops.

643.19 Basis of Payment

The fourth paragraph is deleted and replaced with the following:

The Preemptive Traffic Loops will be paid for at the Contract unit price each, which payment will be full compensation for furnishing all materials, wiring, and all incidentals required for a complete functioning installation, testing and for furnishing all tools, equipment and labor necessary for completing the installation.

Payment will be made under:

Pay Item		Pay Unit
643.713	Preemptive Traffic Loops	Each

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

The accepted signs Removed and Reset will be paid for at the Contract unit price each as specified. Such price will include removing and resetting sign panels, removing and resetting or disposing existing wood post and resetting the sign panels on the existing or new wood post and new hardware as required to complete the sign installation. Any signs or supports damaged by the Contractor shall be replaced by him with new signs or supports conforming to the applicable Specifications at no additional cost to the Authority.

Payment will be made under:

Pay Item		Pay Unit
645.109	Remove and Reset Sign	Each

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

(Bridge Sign (Skyway Drive Bridge))
(Bridge Overpass-Mounted Guide Sign Support (Congress Street Bridge))

645.01 Description

The following sentences are added:

This work shall also consist of removing, stacking and mounting the existing Exit 46 guide sign, currently ground mounted, to the new overpass-mounted sign support on the Congress Street Bridge north fascia. As well as furnishing and erecting the proposed bridge overpass-mounted sign support on the Congress Street Bridge fascia as shown on the Plans.

This work shall also consist of installing the street name sign "Skyway Drive" on the Exist 46 Bridge concrete diaphragms as shown on the Plans.

The Authority will supply the street name sign to be installed in the supports.

645.08 Method of Measurement

The following sentence is added:

Bridge Overpass-Mounted Guide Sign Support (Congress Street Bridge) and Bridge Sign (Skyway Drive Bridge) shall be measured by each unit.

645.09 Basis of Payment

The following paragraph is added:

The accepted Bridge Overpass-Mounted Guide Sign Support (Congress Street Bridge) will be paid for at the Contract unit price each. Such price shall be full compensation for removing, stacking and mounting the existing sign and furnishing and erecting the sign supports. Erection of the sign support may include maintenance of traffic and ancillary fence cutting both shall be incidental to this pay item.

The accepted Bridge Sign (Skyway Drive Bridge) will be paid for at the Contract unit price each. Such price shall be full compensation for furnishing and erecting the sign supports and installing the street name sign.

Payment will be made under:

Pay Item		Pay Unit
645.12	Bridge Sign (Skyway Drive Bridge)	Each
645.13	Bridge Overpass-Mounted Guide Sign Support (Congress Street Bridge)	Each

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

(Installation of Type II Signs)

645.01 Description

The following paragraph is added:

This work shall consist of installing new signs fabricated by the Authority, onto a new single wood post or adjustable banding bracket supplied by the Contractor. Contractor shall pick up all new signs at the Authority's Sign Shop, Mile 58.3 northbound.

645.02 General

Sign sizes and post sizes and types are as shown on the proposed sign summary sheet. All signs will be fabricated of sheet aluminum and shall conform to Subsection 645.061 for installation. Sign posts and adjustable banding brackets shall be new.

645.08 Method of Measurement

The following sentence is added:

Installation of Type II Signs shall be measured for payment per each sign or sign assembly satisfactorily installed.

645.09 Basis of Payment

Payment for Installation of Type II Signs shall be at the Contract unit price per each sign (single post). This payment shall be full compensation for transporting the signs from the Authority's Sign Shop to the project site, furnishing and installing new wood posts or adjustable banding bracket, installing the signs on to the new posts or sign column, including all hardware, labor, equipment, and all other incidentals necessary to complete the installation in accordance with the details as shown on the Plans.

Payment will be made under:

Pay Item		Pay Unit
645.401	Installation of Type II Signs – Single Post	Each

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

(Installation of Type I Guide Signs)

645.01 Description

The following paragraph is added:

This work shall consist of installing new signs fabricated by the Authority, onto new post(s). Contractor shall pick up all new signs at the Authority's Sign Shop, Mile 58.3 northbound.

645.02 General

Sign sizes and post sizes and types are as shown on the proposed sign summary sheet. All signs will be fabricated of sheet aluminum and shall conform to Subsection 645.061 for installation. Information on sign posts, breakaway devices, and foundations are contained in the applicable Specifications.

645.08 Method of Measurement

The following sentence is added:

Installation of Type I Guide Signs shall be measured for payment per each sign or sign assembly satisfactorily installed. Sign posts, breakaway devices, and foundations will not be measured for payment under this item. See sign posts, breakaway devices, and foundations specifications for method of measurement.

645.09 Basis of Payment

Payment for Installation of Type I Guide Signs shall be at the Contract unit price per each sign. This payment shall be full compensation for transporting the signs from the Authority's Sign Shop to the project site, installing the signs on to the new posts, including all hardware, labor, equipment, and all other incidentals necessary to complete the installation in accordance with the details as shown on the Plans.

Payment will be made under:

Pay Item		Pay Unit
645.410	Installation of Type I Guide Signs	Each

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(General)

652.2 Materials

Delete the first sentence in the second paragraph and replace with the following:

Super high intensity fluorescent retroreflective sheeting, ASTM 4956 – Type VII, Type VIII or Type IX (Prismatic), is required for all construction signs.

652.2.3 Flashing Arrow Board

Delete the existing 5 paragraphs and replace with the following:

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

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

FAP elements shall be capable of at least a 50 percent dimming from full brilliance. Full brilliance should be used for daytime operation and the dimmed mode shall be used for nighttime operation. FAP shall be at least 2.4 M x 1.2 M [96" x 48"] and finished in non-reflective black. The FAP shall be interpretable for a distance not less than 1.6 km [1 mile].

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

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

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

Controller and battery compartments shall be enclosed in lockable, weather-tight boxes. The FAP shall be mounted on a pneumatic-tired trailer or other suitable support for hauling to various locations, as directed. The minimum mounting height of an arrow panel should be 2.1 M [7 feet] from the roadway to the bottom of the panel.

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

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

652.2.4 Other Devices

The eighth paragraph is deleted and replaced with Special Provision Section 652, Maintenance of Traffic (Portable Changeable Message Sign).

652.2.5 Safety Vests

This Subsection is amended by the addition of the following:

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

652.2.6 Signs

The use of temporary plaques to cover text or to change text will not be allowed. All signs shall have a uniform face.

652.4 Flaggers

Replace the first paragraph with the following;

The Contractor shall furnish flaggers as required by the TCP or as otherwise specified by the Resident. All flaggers must have successfully completed a flagger test approved by the MaineDOT and administered by a MaineDOT-approved Flagger-Certifier who is employing that flagger. All flaggers must carry an official certification card with them while flagging that has been issued by their employer. Flaggers shall wear safety apparel meeting ANSI 107-2004 Class 3 risk exposure that clearly identifies the wearer as a person, and is visible at a minimum distance of 300 m [1000 ft], and shall wear a hardhat with 360° retro-reflectivity. Retro-reflective or flashing SLOW/STOP paddles shall be used, and the flagger station shall be illuminated to assure visibility in accordance with 652.6.2.

Second paragraph, first sentence; change "…have sufficient distance to stop before entering the workspace." to "…have sufficient distance to stop at the intended stopping point." Third sentence; change "At a spot obstruction…" to "At a spot obstruction with adequate sight distance,…"

Fourth paragraph, delete and replace with:

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

652.6 Nightwork

Delete this section entirely and replace with the following:

652.6.1 Daylight Work Times

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

652.6.2 Night Work

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

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

The Contractor shall have available portable floodlights for special areas.

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

The Contractor shall submit, as a subset of the Traffic Control Plan, a lighting plan at the Preconstruction Conference, showing the type and location of lights to be used for night work. The Resident may require modifications be made to the lighting set up in actual field conditions.

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

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

Night Work lighting requirements:

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

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

Hybrid Operations: For hybrid-type operations (guardrail, sweeping, Inslope excavation, etc.), either direct or indirect lighting may be utilized. The chosen lights must be capable of producing at least 10 foot-candles of light around the work area of the equipment Inspection Operations: Areas required to be inspected by the Authority will require a minimum of 5 foot-candles of lighting. This may be accomplished through direct or indirect means.

All workers shall wear safety apparel labeled as meeting the ANSI 107-2004 standard performance for Class 3 risk exposure.

The Contractor shall apply 2- inch wide retro-reflective tape, with alternating red and white segments, to outline the front back and sides of construction vehicles and equipment, to define their shape and size to the extent practicable. Pickup trucks and personal vehicles are exempt from this requirement. The Contractor shall furnish approved signs reading "Construction Vehicle - Keep Back" to be used on trucks hauling to the project when such signs are deemed necessary by the Resident. The signs shall be a minimum of 30 inches by 60 inches, Black and Orange, ASTM D 4956 - Type VII, Type VIII, or Type IX (prismatic).

All vehicles used on the project, including pickup trucks and personal vehicles, shall be equipped with amber flashing lights, visible from both front and rear, or by means of single, approved type, revolving, flashing or strobe lights mounted so as to be visible 360º. The vehicle flashing system shall be in continuous operation while the vehicle is on any part of the project.

The Resident or any other representative of the Authority reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Authority shall not be held responsible for any delay in the work due to any suspension under this item. Failure to follow the approved Lighting Plan will result in a Traffic Control violation.

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

652.63 Traffic Coordinator

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

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

a. Developing, in conjunction with the Resident and Project superintendent, a traffic control program for the days' work activities which will facilitate traffic in a safe and efficient manner;

b. Insure that all traffic control implements (signs, arrow boards, barrels, etc.) are on-site so the traffic program can be implemented effectively;

c. Insure a safe and effective setup or take-down of all signing implements to least impact the traveling motorist; and,

d. Working knowledge of construction signing/traffic control requirements in conformance with the latest issued Manual on Uniform Traffic Control Devices.

652.8.2 Other Items

Replace the first paragraph with the following:

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

Replace the last paragraph with the following: "There will be no payment made under any 652 pay items after the expiration of the adjusted total contract time."

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Specific Project Traffic Control)

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

Two lanes of traffic shall be maintained on the Turnpike mainline in each direction (each direction being 24 feet wide including the shoulder) in the non-widened portion of the Turnpike, unless otherwise shown on the plans, and except when Appendix A permits the roadway(s) to be reduced to one lane. Temporary (5 minute) night work lane stoppages will be permitted for overhead sign erection at Congress Street, and bridge railing removal at Exit 45 when the single traffic lane cannot be shifted away from the work zone so materials and lifting equipment is not suspended over the traffic lane.

One lane of traffic shall be maintained on the Turnpike ramps in each direction (each direction being 14 feet wide including the shoulder) unless otherwise shown on the Plans, and except when Appendix A permits the Turnpike ramp(s) to be closed.

One lane of traffic shall be maintained on Skyway Drive in each direction (each direction being 20 feet wide including the shoulder) unless otherwise shown on the Plans, and except when Appendix A permits the on Skyway Drive to be reduced to one lane of alternating traffic controlled by flaggers.

All Locations

Two lanes of mainline traffic are required in each direction 24/7 for weekends and the Memorial Day, July Forth, and Labor Day holiday periods.

The Contractor may submit modifications to the traffic control plans/ phasing for approval. Approval will be contingent upon the roadway having the specified number of lanes available for traffic as required in Appendix A. The Authority reserves the right to accept, modify or reject the Contractor's proposed changes.

Lane closures will only be allowed between the hours as shown in **Appendix A**.

Temporary shoulder closures will be permitted at all times when weather permits, the scheduled work can be safely performed in or from the closed shoulder, two lanes of mainline traffic (or one lane of ramp traffic) can safely pass the shoulder work area, and weekend or Holiday restrictions are not in force.

Permanent right shoulder closures shall be installed at all times when the traffic control plans reduce the right shoulder to less than eight (8) feet.

All temporary lane closures shall be made utilizing drums.

The Contractor will not be permitted to store drums on the traffic side of the guardrail (face of guardrail) during non-work hours or when drums are not required for a lane closure. All drums shall be placed behind guardrail, concrete barrier, or removed from the roadway.

Portable light towers will be required to illuminate the night construction work area.

Travel lanes may not be impeded by traffic control devices until the time frames specified for each activity.

Local road access to the bridge sites is not included in this contract; the Contractor shall coordinate with the City of Portland for local road access and parking.

652.7 Method of Measurement

The following paragraph is added:

Traffic control devices required to complete the work will be measured for payment under their respective pay items. Installation, maintenance, and removal of traffic setups and the Contractor's dedicated traffic employee will not be measured separately for payment, but shall be incidental to Item 652.361, Maintenance of Traffic Control Devices.

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Temporary Mainline Lane Closures)
(Lane Closure Installation and Removal Procedures)
(Temporary Mainline Shoulder Closures)
(Work Requiring Complete Stoppages of Traffic)
(Short-Term or Work Hour Speed)

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

General

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

Temporary Mainline Lane Closures

A minimum width of 14 feet is required for all lane closures.

A lane closure is required when a danger to the traveling public may exist. The potential of any material falling onto the roadway shall be considered a potential danger. This shall include, but not necessarily be limited to, demolition debris, water, tools, equipment and materials.

A lane closure will be required whenever men or equipment will be present within four feet of a travel lane. Dump trucks shall be parked at least six (6) feet from the travel lane when being loaded. Temporary lane closures will only be allowed at the times outlined in Special Provision Section 652, Specific Project Maintenance of Traffic Requirements. These hours may be adjusted based on the traffic volume each day by the Resident.

The lane closure setup may not begin until the beginning time specified. Lane closures that are setup early or that remain in place outside of the approved period shall be subject to a lane rental fee of $500 per five minutes for every five minutes outside of the approved time. The installation of the construction signs will be considered setting up the lane closure. Removal of the last construction sign will be considered the removal of a lane closure. Construction signs shall be installed immediately prior to the start of the lane closure and shall be promptly removed when no longer required. The installation and removal of a lane closure including signs, channelizing devices and arrow boards shall be a continuous operation. The Authority reserves the right to order removal of an approved lane closure.

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

The following is a partial list of activities requiring lane closures. Lane closures may be required for other activities as well:

- Removal of trees and chips from the cleared area.
- Construction of stabilized construction entrances prior to the construction of the lane shifts toward the median.
- Installation of stone check dams in existing ditches.
- Full depth sawcut at 37 or 43 feet offset line.
- Paving new travel lane adjacent to active travel lane.
- Loading of trucks within four feet of a travel lane.
- Bridge construction activities adjacent to a travel lane
- 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:

    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.

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

Daytime lane closures shall be a maximum of three (3) miles. Only one daytime lane closure will be permitted per direction. Nighttime lane closures may extend through the entire length of the Project.

Temporary lane closures and stoppages for blasting may be allowed on the same day if provided for in Special Provision Section 652, Specific Project Maintenance of Traffic Requirements.

The Resident is required to receive approval from the Maine Turnpike Authority for all lane closures. The request shall be submitted to the Authority by the Resident at least two (2) working days prior to the day of the requested lane closure. All requests must be received by

12:00 p.m. to be considered as received on that day. Requests received after 12:00 p.m. shall be considered as received the following day. The Contractor shall plan the work accordingly.

Lane Closure Installation and Removal Procedure

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

1. The sign package shall be erected starting with the first sign and proceeding to the start of the taper. The sign crew shall erect signs with the vehicle within the outside shoulder;

2. Position the arrow board with the proper arrow at the beginning of the taper; and,

3. When arrow board is in place, continue with the drums/cones to secure the work area.

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

Temporary Mainline Shoulder Closures

Temporary mainline shoulder closures will only be allowed as outlined in Special Provision Section 652, Specific Project Maintenance of Traffic Requirements. Temporary shoulder closures are anticipated at locations where Contractor access to the mainline is required.

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

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

Work Requiring Complete Stoppages of Traffic

Complete stoppages of traffic will only be allowed outlined in Special Provision Section 652, Specific Project Maintenance of Traffic Requirements, or as approved by the Resident.

The following is a partial list of activities requiring complete stoppages of traffic. Complete stoppages of traffic may be required for other activities as well:

- Blasting of ledge.
- Erection or removal of structural steel or bridge beams.
- Moving of heavy or slow equipment across or on the travel lanes (stoppage less than five minutes).
- Erection or removal of overhead signs or sign bridges.

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

Blasting of Ledge

The maximum time for which traffic may be stopped for blasting at any single time shall be eight (8) minutes. The duration shall be measured as the time between the time the last car passes the Resident until the time the Resident determines that all travel lanes are cleared of blast debris. If, due to the throw of rock onto the highway or other blasting related activities, traffic is stopped for more than eight minutes, the Contractor shall pay a penalty of $500.00 per minute for every minute traffic is stopped in each roadway (northbound or southbound), in excess of the eight minute limit. Total penalty shall be deducted from the next pay estimate.

The Erection or Removal of Structural Steel

The erection or removal of structural steel will only be allowed at times outlined in Section 652, Specific Project Maintenance or Traffic Requirements. 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 (northbound and southbound), in excess of the 25 minutes limit. Total penalty shall be deducted from the next pay estimate.

The Removal of Miscellaneous Steel Railings

The removal of miscellaneous steel railings at Exit 45 shall be scheduled nights when the majority of the rail can be removed utilizing single lane closures and traffic can be shifted away from the work area. Sections of railing that cannot be safely removed utilizing single lane closures shall be removed with complete traffic stoppages.

Complete traffic stoppages will be permitted Sunday through Thursday evenings from 10:00 p.m. through 4:00 a.m. the following morning, Holiday periods excluded. Traffic may be stopped and held for periods of up to 20 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 $500.00 per five-minute period, or portion thereof, for each roadway (northbound and southbound) the traffic stoppage exceeds the 20 minute limit. Total penalty shall be deducted from the next pay estimate.

Equipment Moves

The complete stoppage of traffic for an equipment move (including delivery of materials to the median) will be considered for approval if the action can not reasonably be completed with the erection of a lane closure. Contractor shall be responsible for the installation of Signs CS-3, “Expect Stopped Traffic” and Signs W3-4 “Be Prepared to Stop”, in accordance with the Single

Lane Closure Detail immediately prior to the equipment move. These signs shall be covered when not applicable.

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

Unapproved movement of heavy equipment across the travel lanes shall be considered a violation of the Maintenance of Traffic Requirements and is subject to the fines of $500 per minute or portion thereof.

Request for Complete Stoppage of Traffic

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

Short-Term or Work Hour Speed

A short-term or work hour speed (Fines Doubled) is a regulatory speed limit that indicates the maximum legal speed through a work zone which is lower than the normal posted speed. The speed limit shall be displayed by black on white speed limit signs in conjunction with a black on orange "Work Zone" plate. Speed limit signs shall be installed at each mile within the work zone. The reduced speed zone shall be at least 1,500 feet long. Any existing regulatory speed limit signs within the reduced speed zone shall be covered once the reduced speed signs have been erected.

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

The reduced speed limit signs shall only be used during the following circumstances unless approved by the Resident:

- Workers are adjacent to traffic
- Travel lane is closed
- Outside shoulder is closed for 3,000 feet with concrete barrier

The signs shall be covered or removed when not applicable. The covering and uncovering of signs shall be included for payment under Maintenance of Traffic. Signs relating to reduced speed shall be installed in accordance with the details. The Contractor shall note that

signs installed behind concrete barrier in the outside shoulder are required to be clearly visible to all drivers at all times.

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Portable Light Towers)

652.1 Description

The following sentence is added to the second paragraph:

Traffic control devices shall also include portable light towers.

652.1.5 General

Portable light towers will be required to illuminate the flaggers for nighttime alternating one way traffic control on Skyway Drive during maintenance of traffic control setups, and milling and paving operations.

652.7 Method of Measurement

This Subsection is amended by the addition of the following to the first paragraph:

Only Portable Light Towers used to illuminate the flaggers for nighttime alternating one way traffic control on Skyway Drive during maintenance of traffic control setups, and milling and paving operations, as approved by the Resident, shall be measured for payment. Light Towers will only be measured for payment once, regardless of the number of times used. Light Towers utilized for the Contractor's operations will not be paid for.

652.8.2 Basis of Payment

Payment will be made under:

Pay Item		Pay Unit
652.39	Portable Light Tower	Each

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Portable-Changeable Message Sign)

652.2.4 Other Devices

The eighth paragraph is deleted and replaced with the following:

Portable-Changeable Message Signs (PCMS) will be furnished by the Contractor and shall be Ver-Mac PCMS-1210 or an approved equal. PCMS's shall be located and relocated to locations approved by the Resident within the Project limits for the duration of the Project.

Features to the Ver-Mac PCMS shall include:

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

The Contractor shall complete and/or provide the following:

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

The Contractor shall also:

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

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

652.7 Method of Measurement

The following sentence is added:

Portable-Changeable Message Sign(s) will be measured for payment by each unit furnished, installed and maintained.

652.8 Basis of Payment

The following paragraphs are added:

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

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

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

Payment will be made under:

Pay Item		Pay Unit
652.41	Portable-Changeable Message Sign	Each

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Truck Mounted Attenuator)

652.1 Description

The following sentence is added:

The Contractor shall furnish, operate and maintain a truck and truck mounted attenuator.

652.2.1 Truck Mounted Attenuator

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

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.

652.7 Method of Measurement

The following sentences are added:

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

652.8.2 Basis of Payment

The following paragraphs are added:

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

The unit price noted in the proposal sheet is fixed by the Maine Turnpike Authority and may not be altered. Altering of the unit price will be a non-curable bid defect.

Payment will be made under:

Pay Item		Pay Unit
652.45	Truck Mounted Attenuator	Calendar Day

SPECIAL PROVISION

SECTION 656

TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

Section 656 of the Standard Specifications and the General Provisions 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.

All temporary erosion control devices shall be in place and approved by the Resident prior to any operations resulting in disturbed area. The Contractor is responsible for maintaining all erosion control measures in effective operating condition, including repairing and replacing damaged or missing erosion control material until areas are permanently stablized. The Contractor shall maintain these devices in a clean and properly operating condition as described herein.

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. The Contractor shall maintain the sediment barriers until the disturbed area is permanently stabilized.

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. The frequency of inspection of these devices by the Contractor and the Erosion Control Compliance Officer (ECCO) shall be weekly and before, during and immediately following a rainfall of greater than 1/2 inch in a 24-hour period.

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.

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.

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.

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

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART III – APPENDICES

APPENDIX A

ALLOWABLE LANE CLOSURE TIMES

Exit 42 - Exit 44

Maine Turnpike, between Exit 45 (Maine Mall) & Exit 46 (Jetport)

Month	Northbound - Single Lane Closure				Northbound - Double Lane Closure			
	Weekday		Thursday	Sunday	Weekday		Thursday	Sunday
	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)
Apr	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am	n/a	8:00 pm- 5:30 am	8:00 pm- 5:30 am	9:00 pm- 5:30 am
May	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am	n/a	8:00 pm- 5:30 am	8:00 pm- 5:30 am	9:00 pm- 5:30 am
Jun	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am	n/a	9:00 pm- 5:30 am	9:00 pm- 5:30 am	9:00 pm- 5:30 am
Jul	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am	n/a	10:00 pm- 5:30 am	10:00 pm- 5:30 am	10:00 pm- 5:30 am
Aug	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am	n/a	10:00 pm- 5:30 am	10:00 pm- 5:30 am	10:00 pm- 5:30 am
Sep	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am	n/a	8:00 pm- 5:30 am	8:00 pm- 5:30 am	9:00 pm- 5:30 am
Oct	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am	n/a	8:00 pm- 5:30 am	8:00 pm- 5:30 am	9:00 pm- 5:30 am
Nov	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am	n/a	8:00 pm- 5:30 am	8:00 pm- 5:30 am	9:00 pm- 5:30 am

Exit 45 - Exit 46

Maine Turnpike, between Exit 45 (Maine Mall) & Exit 46 (Jetport)

Month	Northbound				Southbound			
	Weekday		Thursday	Sunday	Weekday		Thursday	Sunday
	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)
Apr	n/a	6:30 pm- 6:00 am	6:30 pm- 6:00 am	6:00 pm- 6:00 am	n/a	6:30 pm- 6:00 am	6:30 pm- 6:00 am	6:30 pm- 6:00 am
May	n/a	6:30 pm- 6:00 am	6:30 pm- 6:00 am	6:00 pm- 6:00 am	n/a	6:30 pm- 6:00 am	6:30 pm- 6:00 am	6:30 pm- 6:00 am
Jun	n/a	6:30 pm- 6:00 am	6:30 pm- 6:00 am	6:00 pm- 6:00 am	n/a	6:30 pm- 6:00 am	6:30 pm- 6:00 am	7:30 pm- 6:00 am
Jul	n/a	8:00 pm- 6:00 am	8:00 pm- 6:00 am	6:00 pm- 6:00 am	n/a	7:30 pm- 6:00 am	7:30 pm- 6:00 am	9:00 pm- 6:00 am
Aug	n/a	8:00 pm- 6:00 am	8:00 pm- 6:00 am	6:00 pm- 6:00 am	n/a	7:30 pm- 6:00 am	7:30 pm- 6:00 am	9:00 pm- 6:00 am
Sep	n/a	6:30 pm- 6:00 am	6:30 pm- 6:00 am	6:00 pm- 6:00 am	n/a	6:30 pm- 6:00 am	6:30 pm- 6:00 am	6:30 pm- 6:00 am
Oct	n/a	6:30 pm- 6:00 am	6:30 pm- 6:00 am	6:00 pm- 6:00 am	n/a	6:30 pm- 6:00 am	6:30 pm- 6:00 am	6:30 pm- 6:00 am
Nov	n/a	6:30 pm- 6:00 am	6:30 pm- 6:00 am	6:00 pm- 6:00 am	n/a	6:30 pm- 6:00 am	6:30 pm- 6:00 am	6:30 pm- 6:00 am

Exit 46 - Exit 47

Maine Turnpike, between Exit 46 (Jetport) & Exit 47 (Rand Rd.)

Month	Northbound				Southbound			
	Weekday		Thursday	Sunday	Weekday		Thursday	Sunday
	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)
Apr	n/a	n/a	n/a	n/a	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am
May	n/a	n/a	n/a	n/a	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am
Jun	n/a	n/a	n/a	n/a	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	7:30 pm- 5:30 am
Jul	n/a	n/a	n/a	n/a	n/a	7:30 pm- 5:30 am	7:30 pm- 5:30 am	8:30 pm- 5:30 am
Aug	n/a	n/a	n/a	n/a	n/a	7:30 pm- 5:30 am	7:30 pm- 5:30 am	8:30 pm- 5:30 am
Sep	n/a	n/a	n/a	n/a	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	7:30 pm- 5:30 am
Oct	n/a	n/a	n/a	n/a	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	7:30 pm- 5:30 am
Nov	n/a	n/a	n/a	n/a	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am

Exit 47 - Exit 48

Maine Turnpike, between Exit 47 (Rand Rd.) & Exit 48 (Riverside)

Month	Northbound				Southbound			
	Weekday		Thursday	Sunday	Weekday		Thursday	Sunday
	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)
Apr	n/a	n/a	n/a	n/a	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am
May	n/a	n/a	n/a	n/a	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am
Jun	n/a	n/a	n/a	n/a	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	7:30 pm- 5:30 am
Jul	n/a	n/a	n/a	n/a	n/a	7:30 pm- 5:30 am	7:30 pm- 5:30 am	8:30 pm- 5:30 am
Aug	n/a	n/a	n/a	n/a	n/a	7:30 pm- 5:30 am	7:30 pm- 5:30 am	8:30 pm- 5:30 am
Sep	n/a	n/a	n/a	n/a	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	7:30 pm- 5:30 am
Oct	n/a	n/a	n/a	n/a	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	7:30 pm- 5:30 am
Nov	n/a	n/a	n/a	n/a	n/a	6:30 pm- 5:30 am	6:30 pm- 5:30 am	6:30 pm- 5:30 am

Exit 45 Ramp Closures

Month	Exit 45 Southbound Off Ramp			
	Weekday		Thursday	Sunday
	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)
Apr	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
May	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Jun	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Jul	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Aug	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Sep	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Oct	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Nov	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am

Month	Exit 45 Southbound On Ramp			
	Weekday		Thursday	Sunday
	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)
Apr	n/a	8:00 pm-5:30 am	8:00 pm-5:30 am	7:30 pm-5:30 am
May	n/a	8:00 pm-5:30 am	8:00 pm-5:30 am	7:30 pm-5:30 am
Jun	n/a	8:00 pm-5:30 am	8:00 pm-5:30 am	7:30 pm-5:30 am
Jul	n/a	9:00 pm-5:30 am	9:00 pm-5:30 am	8:30 pm-5:30 am
Aug	n/a	9:00 pm-5:30 am	9:00 pm-5:30 am	8:30 pm-5:30 am
Sep	n/a	8:00 pm-5:30 am	8:00 pm-5:30 am	7:30 pm-5:30 am
Oct	n/a	8:00 pm-5:30 am	8:00 pm-5:30 am	7:30 pm-5:30 am
Nov	n/a	8:00 pm-5:30 am	8:00 pm-5:30 am	7:30 pm-5:30 am

Exit 46 Ramp Closures

	Exit 46 Southbound Off Ramp			
Month	Weekday		Thursday	Sunday
	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)
Apr	n/a	7:30 pm-4:30 am	7:30 pm-4:30 am	7:30 pm-4:30 am
May	n/a	7:30 pm-4:30 am	7:30 pm-4:30 am	7:30 pm-4:30 am
Jun	n/a	7:30 pm-4:30 am	7:30 pm-4:30 am	7:30 pm-4:30 am
Jul	n/a	7:30 pm-4:30 am	7:30 pm-4:30 am	7:30 pm-4:30 am
Aug	n/a	7:30 pm-4:30 am	7:30 pm-4:30 am	7:30 pm-4:30 am
Sep	n/a	7:30 pm-4:30 am	7:30 pm-4:30 am	7:30 pm-4:30 am
Oct	n/a	7:30 pm-4:30 am	7:30 pm-4:30 am	7:30 pm-4:30 am
Nov	n/a	7:30 pm-4:30 am	7:30 pm-4:30 am	7:30 pm-4:30 am

	Exit 46 Southbound On Ramp			
Month	Weekday		Thursday	Sunday
	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)
Apr	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
May	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Jun	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Jul	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Aug	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Sep	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Oct	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Nov	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am

Exit 46 Ramp Closures

Month	Exit 46 Northbound Off Ramp			
	Weekday		Thursday	Sunday
	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)
Apr	n/a	7:00 pm-5:30 am	7:00 pm-5:30 am	7:00 pm-5:30 am
May	n/a	7:00 pm-5:30 am	7:00 pm-5:30 am	7:00 pm-5:30 am
Jun	n/a	7:00 pm-5:30 am	7:00 pm-5:30 am	7:00 pm-5:30 am
Jul	n/a	7:00 pm-5:30 am	7:00 pm-5:30 am	7:00 pm-5:30 am
Aug	n/a	7:00 pm-5:30 am	7:00 pm-5:30 am	7:00 pm-5:30 am
Sep	n/a	7:00 pm-5:30 am	7:00 pm-5:30 am	7:00 pm-5:30 am
Oct	n/a	7:00 pm-5:30 am	7:00 pm-5:30 am	7:00 pm-5:30 am
Nov	n/a	7:00 pm-5:30 am	7:00 pm-5:30 am	7:00 pm-5:30 am

Month	Exit 46 Northbound On Ramp			
	Weekday		Thursday	Sunday
	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)
Apr	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
May	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Jun	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Jul	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Aug	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Sep	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Oct	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am
Nov	n/a	7:30 pm-5:30 am	7:30 pm-5:30 am	7:30 pm-5:30 am

Falmouth Spur

Maine Turnpike, between I-295 (Exit 11 - Falmouth) & Exit 52 (Falmouth Spur)

Month	Westbound			
	Weekday		Thursday	Sunday
	Day (Mon-Fri)	Night (Mon-Thur)	(Night Only)	(Night Only)
Apr	6:00 am-6:00 pm	6:00 pm-6:00 am	6:00 pm-6:00 am	6:00 pm-6:00 am
May	6:00 am-6:00 pm	6:00 pm-6:00 am	6:00 pm-6:00 am	6:00 pm-6:00 am
Jun	6:00 am-6:00 pm	6:00 pm-6:00 am	6:00 pm-6:00 am	6:00 pm-6:00 am
Jul	6:00 am-6:00 pm	6:00 pm-6:00 am	6:00 pm-6:00 am	6:00 pm-6:00 am
Aug	6:00 am-6:00 pm	6:00 pm-6:00 am	6:00 pm-6:00 am	6:00 pm-6:00 am
Sep	6:00 am-6:00 pm	6:00 pm-6:00 am	6:00 pm-6:00 am	6:00 pm-6:00 am
Oct	6:00 am-6:00 pm	6:00 pm-6:00 am	6:00 pm-6:00 am	6:00 pm-6:00 am
Nov	6:00 am-6:00 pm	6:00 pm-6:00 am	6:00 pm-6:00 am	6:00 pm-6:00 am

Exit 46 Non-Ramp Closure Work Windows

	Exit 46 Southbound Off Ramp		
Month	**Sunday**	**Monday - Thursday**	**Friday**
Jan	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am - 12:00 mid	9:30 am - 5:00 pm
Feb	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am - 12:00 mid	9:30 am - 5:00 pm
Mar	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am - 12:00 mid	9:30 am - 5:00 pm
Apr	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am - 12:00 mid	9:30 am - 5:00 pm
May	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am - 12:00 mid	9:30 am - 5:00 pm
Jun	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am - 12:00 mid	9:30 am - 5:00 pm
Jul	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am - 12:00 mid	9:30 am - 5:00 pm
Aug	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am - 12:00 mid	9:30 am - 5:00 pm
Sep	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am - 12:00 mid	9:30 am - 5:00 pm
Oct	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am - 12:00 mid	9:30 am - 5:00 pm
Nov	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am - 12:00 mid	9:30 am - 5:00 pm
Dec	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am - 12:00 mid	9:30 am - 5:00 pm

Exit 46 Non-Ramp Closure Work Windows

	Exit 46 Southbound On Ramp		
Month	**Sunday**	**Monday - Thursday**	**Friday**
Jan	7:00 pm-12:00 mid	12:01 am - 3:30 pm	12:01 am - 3:30 pm
		6:30 pm-12:00 mid	
Feb	7:00 pm-12:00 mid	12:01 am - 3:30 pm	12:01 am - 3:30 pm
		6:30 pm-12:00 mid	
Mar	7:00 pm-12:00 mid	12:01 am - 3:30 pm	12:01 am - 3:30 pm
		6:30 pm-12:00 mid	
Apr	7:00 pm-12:00 mid	12:01 am - 3:30 pm	12:01 am - 3:30 pm
		6:30 pm-12:00 mid	
May	7:00 pm-12:00 mid	12:01 am - 3:30 pm	12:01 am - 3:30 pm
		6:30 pm-12:00 mid	
Jun	7:00 pm-12:00 mid	12:01 am - 3:30 pm	12:01 am - 3:30 pm
		6:30 pm-12:00 mid	
Jul	7:00 pm-12:00 mid	12:01 am - 3:30 pm	12:01 am - 3:30 pm
		6:30 pm-12:00 mid	
Aug	7:00 pm-12:00 mid	12:01 am - 3:30 pm	12:01 am - 3:30 pm
		6:30 pm-12:00 mid	
Sep	7:00 pm-12:00 mid	12:01 am - 3:30 pm	12:01 am - 3:30 pm
		6:30 pm-12:00 mid	
Oct	7:00 pm-12:00 mid	12:01 am - 3:30 pm	12:01 am - 3:30 pm
		6:30 pm-12:00 mid	
Nov	7:00 pm-12:00 mid	12:01 am - 3:30 pm	12:01 am - 3:30 pm
		6:30 pm-12:00 mid	
Dec	7:00 pm-12:00 mid	12:01 am - 3:30 pm	12:01 am - 3:30 pm
		6:30 pm-12:00 mid	

Exit 46 Non-Ramp Closure Work Windows

	Exit 46 Northbound On Ramp		
Month	**Sunday**	**Monday - Thursday**	**Friday**
Jan	7:00 pm-12:00 mid	12:01 am - 2:30 pm	12:01 am - 1:30 pm
		7:00 pm-12:00 mid	
Feb	7:00 pm-12:00 mid	12:01 am - 2:30 pm	12:01 am - 1:30 pm
		7:00 pm-12:00 mid	
Mar	7:00 pm-12:00 mid	12:01 am - 2:30 pm	12:01 am - 1:30 pm
		7:00 pm-12:00 mid	
Apr	7:00 pm-12:00 mid	12:01 am - 2:30 pm	12:01 am - 1:30 pm
		7:00 pm-12:00 mid	
May	7:00 pm-12:00 mid	12:01 am - 2:30 pm	12:01 am - 1:30 pm
		7:00 pm-12:00 mid	
Jun	7:00 pm-12:00 mid	12:01 am - 2:30 pm	12:01 am -12:00 noon
		7:00 pm-12:00 mid	
Jul	7:00 pm-12:00 mid	12:01 am - 1:30 pm	12:01 am -12:00 noon
		7:00 pm-12:00 mid	
Aug	7:00 pm-12:00 mid	12:01 am - 1:30 pm	12:01 am -12:00 noon
		7:00 pm-12:00 mid	
Sep	7:00 pm-12:00 mid	12:01 am - 2:30 pm	12:01 am - 1:30 pm
		7:00 pm-12:00 mid	
Oct	7:00 pm-12:00 mid	12:01 am - 2:30 pm	12:01 am - 1:30 pm
		7:00 pm-12:00 mid	
Nov	7:00 pm-12:00 mid	12:01 am - 2:30 pm	12:01 am - 1:30 pm
		7:00 pm-12:00 mid	
Dec	7:00 pm-12:00 mid	12:01 am - 1:00 pm	12:01 am -12:00 noon

Exit 46 Non-Ramp Closure Work Windows

	Exit 46 Northbound Off Ramp		
Month	**Sunday**	**Monday - Thursday**	**Friday**
Jan	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am -12:00 mid	9:30 am - 5:00 pm
Feb	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am -12:00 mid	9:30 am - 5:00 pm
Mar	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am -12:00 mid	9:30 am - 5:00 pm
Apr	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am -12:00 mid	9:30 am - 5:00 pm
May	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am -12:00 mid	9:30 am - 5:00 pm
Jun	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am -12:00 mid	9:30 am - 5:00 pm
Jul	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am -12:00 mid	9:30 am - 5:00 pm
Aug	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am -12:00 mid	9:30 am - 5:00 pm
Sep	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am -12:00 mid	9:30 am - 5:00 pm
Oct	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am -12:00 mid	9:30 am - 5:00 pm
Nov	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am -12:00 mid	9:30 am - 5:00 pm
Dec	7:00 pm-12:00 mid	12:01 am - 6:30 am	12:01 am - 6:30 am
		9:30 am -12:00 mid	9:30 am - 5:00 pm

APPENDIX B

PERMITS

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 Stormwate 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

Applicant: General Public, State of Maine

Effective Date: October 12, 2010
Expiration Date: October 12, 2015

DEPARTMENT OF THE ARMY
GENERAL PERMIT
STATE OF MAINE

The New England District of the U.S. Army Corps of Engineers (Corps) hereby issues this General Permit (GP) for activities in waters of the United States (U.S.) that have no more than minimal individual, secondary, and cumulative adverse effects on the aquatic environment in waters of the U.S. within the boundaries of and off the coast of the State of Maine.

I. GENERAL CRITERIA

In order for activities to qualify for this GP, they must meet the GP's terms and eligibility criteria (Pages 1 – 4), general conditions (GC) (Pages 5 – 18), and Appendix A - Definition of Categories.

Under this GP, projects may qualify for the following:

- Category 1: Category 1 Notification Form required.
  (Submittal of the Category 1 Notification Form at Appendix B to the Corps is required.
- Category 2: Application required.
  (Submittal of an application to the Corps is required and written approval from the Corps must be received.

If your project is ineligible for Category 1, it may qualify for Category 2 or an Individual Permit and you must submit an application (see Page 3). The thresholds for Categories 1 and 2 are defined in Appendix A. This GP does not affect the Corps Individual Permit review process or activities exempt from Corps regulation.

II. ACTIVITIES COVERED:

- Work and structures that are located in, under or over any navigable water of the U.S.[1] that affect the course, location, condition, or capacity of such waters; or the excavating from or depositing of material in such waters. The Corps regulates this under Section 10 of the Rivers and Harbors Act of 1899);
- The discharge of dredged or fill material into waters of the U.S[2]. The Corps regulates this under Section 404 of the Clean Water Act (CWA).[3]
- The transportation of dredged material for the purpose of disposal in the ocean. The Corps regulates this under Section 103 of the Marine Protection, Research and Sanctuaries Act.

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[1] Defined at 33 CFR 329 and Appendix A, Page 4.
[2] Defined at 33 CFR 328
[3] When there is a regulated discharge of dredged or fill material into waters of the U.S., the Corps will also consider secondary impacts, which are defined at Appendix A, Endnote/Definition 2.

III. PROCEDURES:

1. State Approvals

Applicants are responsible for applying for and obtaining any of the required state or local approvals (see GC 1, Page 5). Federal and state jurisdictions may differ in some instances. State permits may be required for specific projects regardless of the general permit category.

In order for authorizations under this GP to be valid, when any of the following state approvals or statutorily-required reviews is also required, the approvals must be obtained prior to the commencement of work in Corps jurisdiction.

- Maine Department of Environmental Protection (DEP): Natural Resources Protection Act (NRPA) permit, including permit-by-rule and general permit authorizations; Site Location of Development Act permit; and Maine Waterway Development and Conservation Act permit.
- Maine Department of Conservation: Land Use Regulation Commission (LURC) permit.
- Maine Department of Marine Resources: Aquaculture Leases.
- Maine Department of Conservation, Bureau of Parks and Lands, Submerged Lands: Lease

NOTE: This GP may authorize projects that are not regulated by the State of Maine (e.g., seasonal floats or moorings).

2. Corps Authorizations

a. <u>Category 1 (Submission of Category 1 Notification Form required)</u>

Eligibility Criteria

Activities in Maine that:

- Are subject to Corps jurisdiction (see GC 2, Page 5),
- Meet the terms and eligibility criteria of this GP (Pages 1 - 4),
- Meet all GCs of this GP (Pages 5 – 18), and
- Meet the definition of Category 1 in Appendix A - Definition of Categories,

may proceed without application to the Corps provided:

- The Category 1 Notification Form (Appendix B) is submitted to the Corps before starting the work authorized by this GP.

Consultation with the Corps and/or outside experts may be necessary to ensure compliance with this GP's general conditions (starting on Page 5) and related federal laws such as the National Historic Preservation Act, the Endangered Species Act (ESA), and the Wild and Scenic Rivers Act. For example, experts on historic resources may include the agencies and tribes referenced in GC 8, while experts on endangered species include the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). Project proponents are encouraged to contact the Corps with Category 1 eligibility questions.

Work that is not regulated by the State of Maine, but is subject to Corps jurisdiction, is eligible for Category 1 authorization under this GP. The Maine DEP and LURC have waived WQC for projects authorized under Categories 1 and 2 of this GP. The state has concurred with the determination that projects authorized under Categories 1 and 2 of this GP are consistent with the enforceable policies of the Maine CZM Program.

b. Category 2 (Application to and written approval from the Corps required)

Eligibility Criteria
Activities in Maine that:

- Are subject to Corps jurisdiction (see GC 2, Page 5),
- Meet the terms of this GP (Pages 1 - 4),
- Meet all GCs of this GP (Pages 5 - 18),
- Meet the definition of Category 2 in Appendix A - Definition of Categories,

require an application to and written approval from the Corps. The Corps will coordinate review of Category 2 activities with federal and state agencies, as appropriate. To be eligible and subsequently authorized, an activity must result in no more than minimal impacts to the aquatic environment as determined by the Corps based on comments from the review team and the criteria listed above. This may require project modifications involving avoidance, minimization or compensatory mitigation for unavoidable impacts to ensure the net effects of a project are minimal. Compensatory mitigation for waterway/wetland impacts may take the form of wetland preservation, restoration, enhancement, creation, and/or "in-lieu fee" for inclusion into the Natural Resources Mitigation Fund. See www.nae.usace.army.mil/reg, "Mitigation" and then "Maine" for more information.

Work that is not regulated by the State of Maine, but is subject to Corps jurisdiction, is eligible for Category 2 authorization under this GP. The Maine DEP and LURC have waived WQC for projects authorized under Categories 1 and 2 of this GP. The state has concurred with the determination that projects authorized under Categories 1 and 2 of this GP are consistent with the enforceable policies of the Maine CZM Program.

3. Applying for a Permit

All applicants for Category 2 projects must:

a. Apply directly to the Corps using the state application form or the Corps application form (ENG Form 4345[1]), and apply directly to the state (DEP, LURC, BPL or DMR) as applicable using the appropriate state form, if the work is regulated by the Corps and the state.

b. Apply directly to the Corps using the Corps application form (ENG Form 4345[1]) if the work is regulated by the Corps but not the state (DEP, LURC, BPL or DMR).

c. Provide application information (see "Information Typically Required" in Appendix C) to help ensure the application is complete and to speed project review.

d. Submit a copy of their application materials to the Maine Historic Preservation Commission (MHPC) and the five Indian tribes listed at Appendix D, at the same time, or before, they apply to the state (DEP or LURC) or the Corps, to be reviewed for the presence of historic, archaeological or tribal resources in the permit area that the proposed work may affect. Submittals to the DEP or Corps shall include information to indicate that this has been done (a copy of the applicant's cover letter to MHPC and tribes or a copy of the MHPC and tribal response letters is acceptable).

[1] Located at www.nae.usace.army.mil/reg under "Forms."

4. Review Procedures

The Corps will coordinate review of all Category 2 activities with federal and state agencies, as appropriate, to ensure that the work will result in no more than a minimal impact to the aquatic environment. Applicants are responsible for applying for the appropriate state and local approvals listed on Page 2.

Emergency Procedures: 33 CFR 325.2(e)4 states that an "emergency" is a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process the application under standard procedures." The Corps will work with all applicable agencies to expedite authorization according to established procedures in emergency situations.

Individual Permit Procedures: Proponents of work that does not meet the terms and general conditions of this GP must submit the Corps application form and the appropriate application materials to the Corps at the earliest possible date in order to expedite the Individual Permit review process. General information and application forms can be obtained at our website or by calling us (see Appendix D). Individual WQC and CZM consistency concurrence are required when applicable from the State of Maine before Corps permit issuance. The Corps encourages applicants to concurrently apply for a Corps Individual Permit and state permits.

5. Approval Process

Applicants for Category 2 activities may not proceed with work in Corps jurisdiction until written authorization is received from the Corps. If the Corps determines that the Category 2 activity is eligible for the GP, the Corps will send an authorization letter directly to the applicant. The Corps will attempt to issue a written eligibility determination within the state's review period. If the Corps determines that the activity is not eligible under the GP or that additional information is required, the Corps will notify the applicant in writing and send a copy to the DEP or LURC. Applicants are responsible for obtaining all applicable approvals listed on Page 2 from the appropriate state and local agencies before commencing work in Corps jurisdiction.

V. GENERAL PERMIT CONDITIONS:

The following conditions apply to activities authorized under this Maine GP, unless otherwise specified, including all Category 1 (notification required) and Category 2 (application required) activities:

1. Other Permits. Authorization under this GP does not obviate the need to obtain other federal, state, or local authorizations required by law. This includes, but is not limited to, the project proponent obtaining a Flood Hazard Development Permit issued by the town, if necessary. Inquiries may be directed to the municipality or to the Maine Floodplain Management Coordinator at (207) 287-8063. See www.maine.gov/spo/flood.

2. Federal Jurisdictional Boundaries.
(a) Applicability of this GP shall be evaluated with reference to federal jurisdictional boundaries. Applicants are responsible for ensuring that the boundaries used satisfy the federal criteria defined at 33 CFR 328 "Waters of the U.S." and 33 CFR 329 "Navigable Waters of the U.S."
Note: Waters of the U.S. include the subcategories "navigable waters of the U.S." and "wetlands."
(b) For Category 1 projects, proponents are not required to delineate the waters of the U.S. that they plan to impact, but must approximate the square footage of impacts in order to determine the review category (1 or 2 or Individual Permit). For projects filling <15,000 SF of waters of the U.S. that do not qualify for Category 1 (e.g., vernal pool, secondary or endangered species impacts, etc.) and therefore require an application to the Corps, and for those filling ≥15,000 SF, applicants shall delineate all waters of the U.S. that will be filled (direct impacts) in accordance with the Corps of Engineers Wetlands Delineation Manual and the most recent regional supplements (see Appendix E). In addition, applicants shall approximately identify all waters of the U.S. on the property and known waters adjacent to the property in order for the Corps to evaluate secondary impacts. The waters of the U.S. shall be clearly shown on the project plans submitted with the application. This includes all waters of the U.S. in areas under DEP or LURC jurisdiction regardless of whether they're shown on LURC zoning maps.
(c) On a case-by-case basis, the Corps may modify/refine the above delineation and identification requirements for waters of the U.S.

3. Minimal Direct, Secondary and Cumulative Impacts.
(a) Projects authorized by this GP shall have no more than minimal direct, secondary and cumulative adverse environmental impacts. Category 2 applicants should provide information on secondary and cumulative impacts as stated in Appendix C. Compensatory mitigation may be required to offset unavoidable impacts (see GC 16) and to ensure that they are no more than minimal. Compensatory mitigation requirements will be determined on a case-by-case basis.
(b) Secondary impacts to waterway and/or wetland areas, (e.g., areas drained, flooded, cleared, excavated or fragmented) shall be added to the total fill area when determining whether the project qualifies for Category 1 or 2. Direct, secondary and cumulative impacts are defined at Appendix A, Endnote 2.
(c) Site clearing, grading and construction activities in the upland habitat surrounding vernal pools ("Vernal Pool Management Areas") are secondary impacts. See GC 28 for avoidance and minimization requirements and recommendations.

4. Discretionary Authority. Notwithstanding compliance with the terms and conditions of this permit, the Corps retains discretionary authority to require Category 2 or Individual Permit review based on concerns for the aquatic environment or for any other factor of the public interest [33 CFR

320.4(a)]. This authority is invoked on a case-by-case basis whenever the Corps determines that the potential consequences of the proposal warrant a higher level of review based on the concerns stated above. This authority may be invoked for projects that may contribute to cumulative environmental impacts that are more than minimal or if there is a special resource or concern associated with a particular project that is not already covered by the remaining conditions of the GP and that warrants greater review. Whenever the Corps notifies an applicant that an Individual Permit may be required, the project is not authorized under this GP and no work may be conducted until an Individual Permit is obtained or until the Corps notifies the applicant that further review has demonstrated that the work may proceed under this GP.

5. Single and Complete Projects.
(a) This GP shall not be used to piecemeal work and shall be applied to single and complete projects[1]. When determining the review category in Appendix A (Category 1 or 2) for a single and complete project, proponents must include any permanent historic fill placed since October 1995 that is associated with that project and all currently proposed temporary and permanent impact areas.
(b) A single and complete project must have independent utility[1].
(c) Unless the Corps determines the activity has independent utility[1]:
i. This GP shall not be used for any activity that is part of an overall project for which an Individual Permit is required,
ii. All components of a single project and/or all planned phases of a multi-phased project (e.g., subdivisions should include all work such as roads, utilities, and lot development) shall be treated together as constituting one single and complete project[1].
(d) For linear projects, such as power lines or pipelines with multiple crossings, the single and complete project[1] is all crossings of a single water of the U.S. (i.e., single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly-shaped wetland or lake, etc., are not separate waterbodies and crossings of such features cannot be considered separately. If any crossing requires a Category 2 activity, then the entire linear project shall be reviewed as one project under Category 2.

6. Permit On-Site. For Category 2 projects, the permittee shall ensure that a copy of this GP and the accompanying authorization letter are at the work site (and the project office) authorized by this GP whenever work is being performed, and that all personnel with operation control of the site ensure that all appropriate personnel performing work are fully aware of its terms and conditions. The entire permit authorization shall be made a part of any and all contracts and sub-contracts for work that affects areas of Corps jurisdiction at the site of the work authorized by this GP. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means this GP and the authorization letter (including its drawings, plans, appendices and other attachments) and also includes permit modifications. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or sub-contract. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

[1] Single and Complete Project and Independent Utility are defined at Appendix E.

7. St. John/St. Croix Rivers. Work within the Saint John and Saint Croix River basins that requires approval of the International Joint Commission is not eligible for Category 1 and an application to the Corps is required if any temporary or permanent use, obstruction or diversion of international boundary waters could affect the natural flow or levels of waters on the Canadian side of the line; or if any construction or maintenance of remedial works, protective works, dams, or other obstructions in waters downstream from boundary waters could raise the natural level of water on the Canadian side of the boundary.

8. Historic Properties. No activity otherwise authorized by this GP shall result in effects (as that term is defined at 36 C.F.R. § 800.16(i)) on properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties, unless and until the Corps or another federal agency has satisfied the consultation requirements of Section 106 of the National Historic Preservation Act. Work is not eligible for Category 1 and an application to the Corps is required if the activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. Work is eligible for Category 1 if a no effect or no adverse effect determination has been made for that work by another federal action agency in its Section 106 consultation with the Maine Historic Preservation Commission (MHCP) and the five federally recognized Indian tribes listed at Appendix D. Information on the location and existence of known historic resources can be obtained from the MHPC, the National Register of Historic Places, and the five tribes listed in Appendix D. Historic properties include those that are eligible for inclusion, but not necessarily listed on the National Register. If the permittee, either prior to construction or during construction of the work authorized herein, encounters a previously unidentified archaeological or other cultural resource within the area subject to Corps jurisdiction that might be eligible for listing in the National Register of Historic Places, he/she shall stop work and immediately notify the Corps and the MHPC and/or applicable tribe(s).

9. National Lands. None of the following work is eligible as a Category 1 project**:**
(a) Activities that impinge upon the value of any National Wildlife Refuge, National Forest, National Marine Sanctuary, National Park or any other area administered by the National Park Service, U.S. Fish and Wildlife Service (USFWS) or U.S. Forest Service.
(b) Work on Corps properties and Corps-controlled easements. Contact the Corps, Real Estate Division (978) 318-8585 to initiate reviews about both Corps holdings and permit requirements.
(c) Any proposed temporary or permanent modification or use of a federal project (including but not limited to a levee, dike, floodwall, channel, sea wall, bulkhead, jetty, wharf, pier, or other work built but not necessarily owned by the United States), which would obstruct or impair the usefulness of the federal project in any manner, and/or would involve changes to the authorized federal project's scope, purpose, and/or functioning that go beyond minor modifications required for normal operation and maintenance (requires review and approval by the Corps pursuant to 33 USC 408). Federal projects in Maine as of October 2010 are shown at Appendix F. This map may not be inclusive of all projects.

10. Endangered Species.
(a) No activity may be authorized under Category 1 of this GP which:
i. "May affect" a threatened or endangered species, a species proposed for listing as threatened or endangered, or designated or proposed critical habitat (all herein referred to as "listed species or habitat") as identified under the federal Endangered Species Act (ESA) (unless specified in a programmatic agreement with NMFS or USFWS),

ii. Results in a "take" of any federally-listed threatened or endangered species of fish or wildlife, or

iii. Results in any other violation of Section 9 of the ESA protecting threatened or endangered species of plants.

(b) Work in Inland Waters and Wetlands[1] and the non-tidal portions of Navigable Waters[2] (e.g., the Penobscot River, Kennebec River) is not eligible for Category 1 if:

i. The project action area occurs within a watershed occupied by listed Atlantic salmon or shortnose sturgeon. Project proponents must check the site in Footnote 3 below.

ii. In areas outside these watersheds contact the USFWS (see Appendix D, Page 1 for contact information) to check for the presence of other listed species.

(c) Work in the tidal portions of Navigable Waters may be eligible for Category 1. Reference Appendix A, II. Navigable Waters, Pages 4 – 9, and the other terms and general conditions (GC 11 is particularly relevant) of this GP to determine Category 1 eligibility. Project proponents must contact the USFWS (see Appendix D, Page 1 for contact information) to ensure that work in all tidal portions of Navigable Waters[2] is not in critical habitat or areas occupied by listed species other than Atlantic salmon or shortnose sturgeon.

(d) Although some work is excluded from Category 1 as stated in (b) and (c) above, work may qualify for Category 1 if a no effect determination has been made for that work by a federal action agency such as the Corps.

(e) Proponents must submit an application to the Corps if any of the activities in 10(a)-10(c) that do not qualify for Category 1 may occur and provide information on federally-listed species or habitat to allow the Corps to conduct any required consultation under Section 7 of the ESA.

(f) The Corps review may consider species listed as endangered and threatened pursuant to Maine state law.

11. Essential Fish Habitat. Any work in the following rivers and streams, including all tributaries to the extent that they are currently or were historically accessible for salmon migration, shall not be authorized under Category 1 of the GP and must be screened for potential impacts to EFH (see Appendix E for more information).

Androscoggin River	Aroostook River	Boyden River	Dennys River
Ducktrap River	East Machias River	Hobart Stream	Kennebec River
Machias River	Narraguagus River	Orland River	Passagassawaukeag River
Patten Stream	Penobscot River	Pleasant River	Presumpscot River
Saco River	Sheepscot River	St. Croix River	Tunk Stream
			Union River

The above does not apply to the following activities which may qualify for Category 1 work:

- Exploratory drilling and borings for bridges.
- Moorings (see Appendix A, Page 6 for Category 1 thresholds and requirements)
- Structures and floats (see Appendix A, Page 7 for Category 1 thresholds and requirements)
- Other activities specified in a programmatic agreement with NMFS.

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[1] See Appendix A, Page 1 for definition.

[2] See Appendix A, Page 4 for definition.

[3] For areas considered occupied by listed Atlantic salmon and/or shortnose sturgeon in Inland Waters and Wetlands, and in Navigable Waters, see: www.nero.noaa.gov/prot_res/altsalmon/dpsmaps.html. Tidal portions of navigable waters occupied by listed Atlantic salmon are more specifically described as those waters from the Kennebec River to its mouth at Merrymeeting Bay, northeast to the Dennys River, including the Androscoggin River upstream to the Brunswick Dam, and other streams northeast of this line to the limit of their tidal reaches.

12. Wild and Scenic Rivers. Any activity that occurs in the designated main stem of, within 0.25 mile up or downstream of the designated main stem of, or in tributaries within .25 miles of the designated main stem of a National Wild and Scenic River, or in "bordering and contiguous wetlands" (see Appendix A, Endnote 1) that are adjacent to the designated main stem of a National Wild and Scenic River, or that has the potential to alter flows within a river within the National Wild and Scenic River System, is not eligible for Category 1 regardless of size of the impacts. This condition applies to both designated Wild and Scenic Rivers and rivers officially designated by Congress as study rivers for possible inclusion while such rivers are in an official study status. National Wild and Scenic Rivers System segments for Maine as of October 2010 include: Allagash River beginning at Telos Dam continuing to Allagash checkpoint at Eliza Hole Rapids, approximately 3 miles upstream of the confluence with the St. John River (length = 92 miles).

13. Federal Navigation Project. Any structure or work that extends closer to the horizontal limits of any Corps Federal Navigation Project (see Appendix F) than a distance of three times the project's authorized depth shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys. This is applicable to Category 1 and 2. Reference Appendix A, Page 6 (Moorings) and Page 7 (Structure and Floats).

14. Navigation.
(a) There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein and no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein.
(b) The permittee understands and agrees that, if future U.S. operations require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

15. Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following: (a) damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; (b) damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest; (c) damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit; (d) design or construction deficiencies associated with the permitted work; (e) damage claims associated with any future modification, suspension, or revocation of this permit.

16. Avoidance, Minimization and Compensatory Mitigation.
Discharges of dredged or fill material into waters of the U.S., including wetlands, shall be avoided and minimized to the maximum extent practicable through consideration of alternatives. The Corps may require compensatory mitigation of unavoidable direct and secondary impacts associated with Category 2 projects on a case-by-case basis (see Appendix E).

17. Heavy Equipment in Wetlands. Operating heavy equipment other than fixed equipment (drill rigs, fixed cranes, etc.) within wetlands shall be minimized, and such equipment shall not be stored, maintained or repaired in wetlands, to the maximum extent practicable. Where construction requires heavy equipment operation in wetlands, the equipment shall either have low ground pressure

(typically <3 psi), or it shall be placed on swamp/construction/timber mats (herein referred to as "construction mats" and defined at Appendix A, Endnote 4) that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation. Construction mats are to be placed in the wetland from the upland or from equipment positioned on swamp mats if working within a wetland. Dragging construction mats into position is prohibited. Other support structures that are capable of safely supporting equipment may be used with written Corps authorization (Category 2 authorization or Individual Permit). Similarly, the permittee may request written authorization from the Corps to waive use of mats during frozen, dry or other conditions. An adequate supply of spill containment equipment shall be maintained on site.

18. Temporary Fill.
Temporary fill that qualifies for Category 1 (e.g., <15,000 SF of combined temporary and permanent fill associated with the single and complete project) or is authorized in writing under Category 2, shall adhere to the following:
(a) All temporary fill shall be stabilized to prevent its eroding into portions of waters of the U.S., including wetlands, where it is not authorized.
(b) Unconfined temporary fill authorized for discharge into waters of the U.S., including wetlands, shall consist of material that minimizes impacts to water quality (e.g. sandbags, clean gravel, stone, aggregate, etc.).
(c) Temporary fill authorized for discharge into wetlands should be placed on geotextile fabric or other material (e.g., straw) laid on the pre-construction wetland grade where practicable to minimize impacts.
(d) Temporary fill shall be removed as soon as it is no longer needed, disposed of at an upland site, and suitably contained to prevent subsequent erosion into waters of the U.S, including wetlands.
To qualify for Category 1, temporary fill placed during the:

i. Growing season must be removed before the beginning of the next growing season.

ii. Non-growing season may remain throughout the following growing season, but must be removed before the beginning of the next growing season.

(e) Waters of the U.S., including wetlands, where temporary fill was discharged shall be restored (see GC 19).
(f) Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must be placed in a manner that will not be eroded by expected high flows (see GC 21).
(g) Construction mats and corduroy roads (see GC 17 above) are considered as temporary fill when they are removed immediately upon work completion. The area must be restored (see GC 19).

19. Work Site Restoration.
(a) Wetland areas where permanent disturbance is not authorized shall be restored to their original condition and elevation, which under no circumstances shall be higher than the pre-construction elevation. Original condition means careful protection and/or removal of existing soil and vegetation, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized.
(b) Upon completion of construction, all disturbed wetland areas (the disturbance of these areas must be authorized) shall be properly stabilized. Any seed mix shall contain only plant species native to New England and shall not contain any species listed in the "Invasive and Other Unacceptable Plant Species" Appendix in the "New England District Compensatory Mitigation Guidance" (see Appendix E, Paragraph 6). This list may be updated periodically.
(c) In areas of authorized temporary disturbance, if trees are cut they shall be cut at ground level and

not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.

20. Bank Stabilization.
(a) Projects involving construction or reconstruction/maintenance of bank stabilization structures within Corps jurisdiction shall be designed to minimize environmental effects, effects to neighboring properties, scour, etc. to the maximum extent practicable.
(b) Project proponents must design and construct bank stabilization projects using this sequential minimization process: avoidance of aquatic resource impacts, diversion of overland flow, vegetative stabilization, stone-sloped surfaces, and walls/bulkheads. Vertical walls/bulkheads shall only be used in situations where reflected wave energy can be tolerated. Refer to Appendix E for design guidance.
(c) Inland Water bank stabilization activities necessary for erosion prevention must meet all of the following criteria: **(i)** No material is placed in excess of the minimum needed for erosion protection; **(ii)** The activity is no more than 500 feet in length along the bank; **(iii)** The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark; **(iv)** Structures angled steeper than 1H:1V and any material other than angular or subangular stone or fiber roll revetments require at least a Category 2 review. **(v)** The activity does not involve discharges of dredged or fill material into special aquatic sites; **(vi)** No material is of the type, or is placed in any location, or in any manner, to impair surface water flow into or out of any water of the U.S.; **(vii)** No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas); and, **(viii)** The activity is not a stream channelization activity.
(d) Navigable Water bank stabilization activites are provided at Appendix A, Page 4.

21. Sedimentation and Erosion Control.
(a) Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, installation of sediment control barriers (i.e. silt fence, vegetated filter strips, geotextile silt fences, erosion control mixes, hay bales or other devices) downhill of all exposed areas, retention of existing vegetated buffers, application of temporary mulching during construction, and permanent seeding and stabilization shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. They shall be capable of preventing erosion, of collecting sediment, suspended and floating materials, and of filtering fine sediment.
(b) Temporary sediment control barriers shall be removed upon completion of work, but not until all disturbed areas are permanently stabilized. The sediment collected by these sediment barriers shall be removed and placed at an upland location and stabilized to prevent its later erosion into a waterway or wetland.
(c) All exposed soil and other fills shall be permanently stabilized at the earliest practicable date (see GC 19).

22. Stream Work and Crossings[1].

Notes:

(a) GC 22(a) and (b) apply to Inland Waters and Wetlands (see Appendix A, Page 1 for definition) and Navigable Waters (see Appendix A, Page 4 for definition). GC 22(c)-(l) only apply to Inland Waters and Wetlands that are streams. All new and replacement crossings in Navigable Waters require an application to the Corps and at least a Category 2 review.

(b) In-stream work in a watershed occupied by listed Atlantic salmon or shortnose sturgeon [see GC 10(b)] and some stream work such as crossings on EFH waters (see GC 11) is not eligible for Category 1.

(c) "High-Quality Stream Segments" are shown at www.maine.gov/dep/gis/datamaps and may be useful in evaluating impacts to fisheries. GIS shape files are under "Other Google Earth Interactive Maps" and PDFs by county are under "DEP GIS Maps." See Appendix E, 8(b) for more information.

Conditions:

(a) All permanent crossings of rivers, streams, brooks, etc. (hereon referred to as "streams") shall be suitably culverted, bridged, or otherwise designed to **i)** withstand and to prevent the restriction of high flows to qualify for Category 1, and **ii)** not obstruct the movement of or not substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, beyond the actual duration of construction unless the activity's primary purpose is to impound water to qualify for Category 1 or 2. (NOTE: Areas of fill and/or cofferdams must be included in total waterway/wetlands impacts to determine applicability of this GP).

(b) Any work that temporarily or permanently impacts upstream or downstream flood conditions, or permanently impacts wetlands in excess of Category 1 thresholds, must be reviewed at least under Category 2. See the documents referenced in Appendix E, 8(c) and (d) for guidance.

(c) New Stream Crossings. For new stream crossings to qualify for Category 1:

i. Must ensure compliance with GC 22(a) and GC 22(b) above.

ii. Shall be designed and constructed in accordance with the Corps General Stream Crossing Standards provided on Page 14 and the stream simulation document listed at Appendix E, 8(a).

(d) Replacement Stream Crossings. For replacement stream crossings to qualify for Category 1:

i. Must ensure compliance with GC 22(a) and GC 22(b) above.

ii. Shall be designed and constructed in accordance with the Corps General Stream Crossing Standards provided on Page 14 and the stream simulation document listed at Appendix E, 8(a).

(e) Culvert Extensions. Culvert extensions on culverts that do not meet the Corps General Stream Crossing Standards do not qualify for Category 1 and require an application to the Corps at least as a Category 2 project.

(f) Temporary Stream Crossings.

Note: The General Stream Crossing Standards don't apply to temporary stream crossings.

i. Temporary stream crossings or cofferdams shall be used for equipment access across streams [see Appendix E, 8(e)]. Note: Areas of fill and/or cofferdams must be included in total waterway/wetlands impacts to determine the review category in Appendix A.

ii. Temporary stream crossings shall be removed within 180 days to qualify for Category 1.

iii. Temporary stream crossings that are not spans[2] (typically culverts) must be designed in accordance with 1-6 below to qualify for Category 1. Category 2 applications should include information demonstrating 2-6 below:

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[1] This condition does not apply to non-tidal drainage systems and irrigation ditches excavated on dry land.

[2] For the purposes of this GP, spans are bridges, three-sided box culverts, open-bottom culverts or arches that span the stream with footings landward of bankfull width.

1. Installed and removed during the low flow period specified in GC 22(l) below.

2. Placed on geotextile fabric or other material where practicable to ensure restoration to the original grade. Soil may not be used to construct or stabilize these structures and rock must be large enough to allow for easy removal without disrupting the streambed.

3. Designed and maintained to withstand and pass high flows. Water height should be no higher than the top of the culvert's inlet. A minimum culvert diameter of two feet is required to pass debris. Culverts must be aligned to prevent bank erosion or streambed scour.

4. Equipped with energy dissipating devices installed downstream if necessary to prevent scour.

5. Designed and maintained to prevent soil from entering the waterbody.

6. Removed upon the completion of work. Impacts to the streambed or banks requires restoration to their original condition using stream simulation methods[1].

(g) Slip Lining. Work using slip lining (retrofitting an existing culvert by inserting a smaller diameter pipe), invert lining, or resulting in decreased diameter, do not qualify for Category 1, either as new work or maintenance activities.

(h) Work in Flowing Waters. To qualify for Category 1, no unconfined fill [see GC 18(b)] or excavation in flowing waters is allowed. To accomplish this:

i. Bank stabilization work below ordinary high water (OHW) shall utilize erosion controls such as inflatable cofferdams, jersey barrier, silt screen, turbidity curtain, etc. where practicable to prevent sediment input to the stream and to minimize turbidity and sedimentation impacts for sensitive life stages. Bank stabilization above OHW must utilize erosion controls.

ii. Management techniques such as temporary flume pipes, culverts, cofferdams, etc. must be used to maintain normal flows within the stream boundary's confines, or water diversions may be used immediately up and downstream of the work footprint (see Appendix A, Endnote 6) or work must be performed in the dry under no flow conditions, or under very low flow conditions following the practices in GC 22(a).

(i) Minimization. In order to make the Category 2 review process more efficient and result in a faster decision, new and replacement stream crossings should be designed using the least intrusive and environmentally damaging method following this sequential minimization process: 1) spans with no stream impacts, 2) spans with stream impacts, and 3) embedded culverts with stream simulation or low-slope design.

(j) Maintenance Requirements. The permittee shall maintain the work authorized herein in good condition and in conformance with the terms and general conditions of this permit to facilitate aquatic life passage as stated in GC 22(a). Culverts that develop "hanging" inlets or outlets, result in bed washout, or a stream that doesn't match the characteristics of the substrate in the natural stream channel such as mobility, slope, stability confinement will require maintenance or repair to comply with this GC. This does not apply to GC 22(f) above.

(k) Maintenance and Replacement Information. An existing stream crossing must be authorized and in compliance with all conditions of its authorization(s) to qualify for maintenance not subject to regulation. See Appendix A, Endnote 7. A non-serviceable crossing is not eligible for maintenance and is therefore considered as a replacement crossing [see 22(d)].

(l) Work Window. For projects that otherwise meet the terms of Category 1, in-stream construction work shall be conducted during the low flow period July 15 - October 1 in any year. Projects that are not to be conducted during that time period are ineligible for Category 1 and shall be screened pursuant to Category 2, regardless of the waterway and wetland fill and/or impact area.

(See next page for Corps General Stream Crossing Standards.)

[1] Design and construction shall be in accordance with the stream simulation document listed at Appendix E, 8(a).

Corps General Stream Crossing Standards (required for Category 1, recommended for Category 2):
(a) Culverts must be embedded:

- ≥ 2 feet for box culverts and other culverts with smooth internal walls,
- ≥ 1 foot for corrugated pipe arches
- ≥ 1 foot and at least 25 percent for corrugated round pipe culverts

(b) For new crossings, spans[1] are required to avoid or cause minimal disruption to the streambed and to meet the requirements of General Condition 22(a) and 22(b). Footings and abutments must be landward of 1.2 times bankfull width. To the greatest extent practicable, work in the stream shall be minimized, and design and construction shall allow the streambed's natural structure and integrity to remain intact. Any fill or excavation of the streambed below bankfull width other than footings, support pilings, or work specified in 22(h)ii requires Category 2 review and, unless demonstrated otherwise, stream simulation[2] to establish substrate and banks in the span structure and work area as specified in (d) and (e) below.
(c) For replacement crossings, spans[1] are required to meet the requirements of General Condition 22(a) and 22(b). Footings and abutments shall be landward of 1.2 times bankfull width. Unless demonstrated otherwise, stream simulation[2] is required to establish substrate and banks in the span structure and work area as specified in (d) and (e) below.
(d) Crossings must have a natural bottom substrate within the structure matching the characteristics of the substrate in the natural stream channel and the banks (mobility, slope, stability, confinement, grain and rock size)[2] at the time of construction and over time as the structure has had the opportunity to pass significant flood events. To allow terrestrial passage for wildlife and prevent undermining the footings, crossings shall have a bank on both sides of the stream matching the horizontal profile of the existing stream and banks[2].
(e) Crossings must be designed and constructed[2] with appropriate bed forms and streambed characteristics so that water depths and velocities are comparable to those found in the natural channel at a variety of flows. In order to provide appropriate water depths and velocities at a variety of flows and especially low flows, it is usually necessary to reconstruct the streambed or preserve the natural channel within the structure. Otherwise, the width of the structure needed to accommodate higher flows will create conditions that are too shallow at low flows. The grain and rock size, and arrangement of streambed materials within the structure should be in accordance with (d) above. Flows could go subsurface within the structure if only large material is used without smaller material filling the voids.

23. Wetland Crossings.
(a) All temporary and permanent crossings of wetlands shall be suitably culverted, bridged, or otherwise designed to: **i)** Withstand and prevent the restriction of high flows, **ii)** Not obstruct the movement of or not substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the wetland, including those species that normally migrate through the area, beyond the actual duration of construction unless the activity's primary purpose is to impound water. See Appendix E for the Maine DEP's crossing standards.
(b) To qualify for Category 1, new and replacement wetland crossings that are permanent shall be culverted, spanned or bridged in such a manner as to preserve hydraulic and ecological connectivity, at its present level, between the wetlands on either side of the road. To meet this requirement, we

[1] For the purposes of this GP, spans are bridges, three-sided box culverts, open-bottom culverts or arches that span the stream with footings landward of bankfull width.
[2] Design and construction shall be in accordance with the stream simulation document listed at Appendix E, 8(a).

recommend that culverts, spans or bridges be placed at least every 50 feet with an opening at least 2 feet high and 3 feet wide at ground level where practicable. Closed bottom culverts shall be embedded at least 6 inches with a natural bottom.
(c) In the case of non-compliance, the permittee shall take necessary measures to correct wetland damage due to lack of hydraulic and ecological connectivity.
(d) Any work that results in flooding, results in impacts to wetlands on either side of the wetland crossing in excess of Category 1 thresholds, or impacts wetland drainage from the upgradient side of the wetland crossing does not qualify for Category 1.

24. Discharge of Pollutants.
(a) All activities involving any discharge of pollutants into waters of the U.S., including wetlands, authorized under this GP shall be consistent with applicable water quality standards, effluent limitations, standards of performance, prohibitions, and pretreatment standards and management practices established pursuant to the Clean Water Act (CWA) (33 USC 1251), and applicable state and local laws. If applicable water quality standards, limitations, etc., are revised or modified during the term of this GP, the authorized work shall be modified to conform with these standards within six months of the effective date of such revision or modification, or within a longer period of time deemed reasonable by the Corps in consultation with the EPA. Issuance of a LURC or DEP NRPA permit confirms that state water quality standards are met.
(b) All projects authorized by this GP shall be designed, constructed and operated to minimize or eliminate the discharge of pollutants.
(c) All activities involving any discharge of pollutants into waters of the U.S., including wetlands, authorized under this GP must comply with Section 402 [33 U.S.C. 1342] of the CWA and the requirements of the National Pollutant Discharge Elimination System (40 CFR 122).

25. Spawning, Breeding and Migratory Areas. Activities and impacts such as excavations, discharges of dredged or fill material, and/or suspended sediment producing activities, in fish migratory areas, fish and shellfish spawning or nursery areas, or amphibian and migratory bird breeding areas, during spawning or breeding seasons shall be avoided and minimized to the maximum extent practicable.

26. Storage of Seasonal Structures. Coastal structures, such as pier sections and floats, that are removed from the waterway for a portion of the year (often referred to as seasonal structures) shall be stored in an upland location located above mean high water (MHW) and not in tidal wetlands or mudflats. These seasonal structures may be stored on the fixed, pile-supported portion of the structure that is seaward of MHW. This is intended to prevent structures from being stored on the marsh substrate, mudflats, or the substrate seaward of MHW. Seasonal storage of structures in navigable waters, e.g., in a protected cove on a mooring, requires Corps and local harbormaster approval.

27. Environmental Functions and Values. The permittee shall make every reasonable effort to carry out the construction or operation of the work authorized herein in a manner that maintains as much as is practicable, and minimize any adverse impacts on existing fish, wildlife, and natural environmental functions and values.

28. Protection of Vernal Pools (VPs).
(a) Impacts to VP Management Areas[1] for all VPs on, and known VPs surrounding, the project site shall be minimized to the maximum extent practicable.
(b) The following management practices must be followed for all work within the VP Management Area (750' of a VP's edge) of all VPs in order to qualify for Category 1 when there is fill placed in a water of the U.S., including wetlands:

- **i.** Similar to the DEP's Significant Wildlife Habitat regulations[2]:
  1. No disturbance within the VP Depression or VP Envelope (area within 100 feet of the VP Depression's edge)[3];
  2. Maintain a minimum of 75% of the Critical Terrestrial Habitat (area within 100-750 feet of the VP Depression's edge) as unfragmented forest with at least a partly-closed canopy of overstory trees to provide shade, deep litter and woody debris[3];
  3. Maintain or restore forest corridors connecting wetlands and significant vernal pools;
  4. Minimize forest floor disturbance; and
  5. Maintain native understory vegetation and downed woody debris.
- **ii.** Cape Cod style-curbing or no curbing options shall be used on new roads to facilitate amphibian passage[2].

(c) For work not complying with the requirements in (b) above, applicants shall submit an application to the Corps for at least Category 2 review with information on directional buffers in accordance with the VP Directional Buffer Guidance document[2]. Conservation of the unimpacted area within the VP Management Area will often be required.
(d) GC 2 requires applicants to delineate or approximately identify on the project plans all waters of the U.S., which include vernal pools. Appendix A, Page 1 lists VP Category 1 thresholds.

29. Invasive Species.
(a) The introduction, spread, or the increased risk of invasion of invasive plant or animal species on the project site, into new or disturbed areas, or areas adjacent to the project site caused by the site work is prohibited (see Appendix E, Paragraph 6).
(b) Unless otherwise directed by the Corps, all applications for Category 2 inland projects and Category 2 coastal fill projects proposing fill in Corps jurisdiction shall include an Invasive Species Control Plan (ISCP) (see Appendix E, Paragraph 6).

30. Cranberry Development Projects. For cranberry development projects authorized under the GP, the following conditions apply:
(a) If a cranberry bog is abandoned for any reason, the area must be allowed to revert to natural wetlands unless an Individual Permit is obtained from the Corps allowing the discharge of fill for an alternate use.

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[1] The Corps VP Management Area, which includes the VP and a750' radius from the VP's edge, is defined at Appendix A, Endnote 5.
[2] Appendix E, 10(a)-(d) provides links to the state's Significant Wildlife Habitat regulations and references that provide impact minimization measures to reference when designing projects.
[3] The no disturbance requirement in the VP envelope [see (b)(i)(1)], and (b)(i)(2), do not apply to temporary impacts associated with construction mats in previously disturbed areas of existing utility project (e.g., transmission lines, gas pipelines) or linear transportation project (e.g., roads, highways, railways, trails, airport runways and taxiways) right-of-ways provided there is a Vegetation Management Plan that avoids, minimizes and mitigates impacts to aquatic resources.

(b) No stream diversion shall be allowed under Category 1 of this GP.
(c) No impoundments of intermittent or perennial streams shall be allowed under Category 1 and an application to the Corps is required for at least Category 2 review.
(d) The project shall be designed and constructed to not cause flood damage on adjacent properties.

31. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is being or has been performed in accordance with the terms and conditions of this GP. The Corps may also require post-construction engineering drawings for completed work or post-dredging survey drawings for any dredging work.
To facilitate these inspections, the permittee shall complete and return to the Corps:

- For Category 1 projects, the Category 1 Notification Form (Appendix B).
- For Category 2 projects, the 1) Work-Start Notification Form and 2) Compliance Certification Form whenever either is provided with a Category 2 authorization letter.

32. Maintenance.
(a) The permittee shall maintain the work authorized herein in good condition and in conformance with the terms and general conditions of this permit.
(b) This does not include maintenance of dredging projects. Each maintenance dredging event exceeding the Category 1 thresholds (see Appendix A, Page 6) requires a new written Corps authorization unless an unexpired, written Corps authorization specifies that the permittee may "dredge and maintain" an area for a particular time period. Category 1 or 2 maintenance dredging includes only those areas and depths previously authorized and dredged.
(c) Some maintenance activities may not be subject to regulation under Section 404 in accordance with 33 CFR 323.4(a)(2) (see Appendix A, Endnote 7).

33. Property Rights. This PGP does not convey any property rights, either in real estate or material, or any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of Federal, State, or local laws or regulations.

34. Transfer of GP Verifications. When the structures or work authorized by this GP are still in existence at the time the property is transferred, the terms and conditions of this GP, including any special conditions, will continue to be binding on the entity or individual who received the GP verification, as well as the new owner(s) of the property. The permittee may transfer responsibilities and obligations under the GP verification to the new owner by submitting a letter to the Corps (see Appendix D for address) to validate the transfer. A copy of the GP verification must be attached to the letter and the letter must contain the following statement and signature: "When the structures or work authorized by this GP are still in existence at the time the property is transferred, the terms and conditions of this GP, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this GP and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

35. Modification, Suspension, and Revocation. This GP or any work authorized under Category 1 or 2 may be either modified, suspended, or revoked, in whole or in part, pursuant to the policies and procedures of 33 CFR 325.7. Any such action shall not be the basis for any claim for damages against the United States.

36. Restoration Directive. The permittee, upon receipt of a notice of revocation of authorization under this GP, shall restore the wetland or waterway to its former condition without expense to the United States and as directed by the Secretary of the Army or his authorized representative. If the permittee fails

to comply with such a directive, the Secretary or his designee may restore the wetland or waterway to its former condition, by contract or otherwise, and recover the cost from the permittee.

37. Special Conditions. The Corps may independently, or at the request of the Federal resource agencies, impose other special conditions on a project authorized pursuant to this GP that are determined necessary to minimize adverse navigational and/or environmental effects or based on any other factor of the public interest. Failure to comply with all conditions of the authorization, including special conditions, constitutes a permit violation and may subject the permittee to criminal, civil, or administrative penalties and/or an ordered restoration.

38. False or Incomplete Information. If the Corps makes a determination regarding the eligibility of a project under this GP and subsequently discovers that it has relied on false, incomplete, or inaccurate information provided by the permittee, the GP authorization shall not be valid and the U.S. government may institute appropriate legal proceedings.

39. Abandonment. If the permittee decides to abandon the activity authorized under this GP, unless such abandonment is merely the transfer of property to a third party, he/she may be required to restore the area to the satisfaction of the Corps.

40. Enforcement Cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with an on-going Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps and/or EPA as appropriate determines that the activity may proceed independently without compromising the enforcement action.

41. Duration of Authorization. This GP expires on October 11, 2015. Activities authorized under this GP that have commenced (i.e., are under construction) or are under contract to commence before this GP expires will have until October 11, 2016 to complete the activity under the terms and conditions of the current GP.

42. Previously Authorized Activities.
(a) Projects that have received authorization (Category 1 or 2) from the Corps and that were completed under the previous PGPs, nationwide permits, regional general permits or letters of permission, shall remain authorized.
(b) Activities authorized pursuant to 33 CFR Part 330.3 ("Activities occurring before certain dates") are not affected by this GP.
(c) Any work not commenced nor completed that was authorized in a written letter from the Corps under the PGP in effect between October 11, 2005 and October 11, 2010 remains authorized subject to the terms and general conditions of this GP along with any special conditions in the authorizing written letter.

43. NEPA Compliance. The Maine PGP was authorized in full compliance with Council for Environmental Quality ("CEQ") NEPA regulations. The Corps has determined that individual permit actions taken under the terms and conditions of the PGP are not a major federal action significantly affecting the quality of the human environment.

10/12/10

District Engineer Date

APPENDIX A: DEFINITION OF CATEGORIES

A. INLAND WATERS AND WETLANDS	**Inland Waters and Wetlands:** Waters that are regulated under Section 404 of the Clean Water Act, including rivers, streams, lakes, ponds and wetlands, and excluding Section 10 Navigable Waters of the U.S. The jurisdictional limits are the ordinary high water (OHW) mark in the absence of adjacent wetlands, beyond the OHW mark to the limit of adjacent wetlands when adjacent wetlands are present, and the wetland limit when only wetlands are present. For the purposes of this GP, fill placed in the area between the mean high water (MHW) and the high tide line (HTL), and in the bordering and contiguous wetlands[1] to tidal waters are reviewed in the Navigable Waters section. (See II. Navigable Waters on page 4 below.)	
	Projects not meeting Category 1 require an application for review as a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 – 4) and general conditions (Pages 5–18).	
ACTIVITY	**CATEGORY 1**	**CATEGORY 2**
(a) NEW FILL/ EXCAVATION DISCHARGES (You must reference (b) – (e) below for other thresholds that may be relevant to your project.)	**1.** <15,000 square feet (SF) (in LURC or DEP territories) of inland waterway and/or wetland fill and associated secondary impacts[2] (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill, and regulated discharges associated with excavation. Construction mats are considered as fill. [See General Condition (GC) 18(g).] <u>Provided:</u> • Historic fill + proposed impact area <15,000 SF and subdivision fill complies with GC 5, Single and Complete Projects. • No work in special aquatic sites (SAS)[4] other than wetlands. **2.** Construction mats[4] of any area necessary to conduct activities that were previously authorized, authorized under Category 1, or not subject to regulation (see Endnote 7). Authorized construction mats must be in place for <3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 19). **3.** For work in Vernal Pool (VP) Management Areas (includes VPs)[5]: • See GC 2 and Appendix C for VP delineation requirements. • See GC 28 to determine if work qualifies for Category 1 or 2. • See Appendix E, Page 3 for VP documents providing mitigation guidance.	**1.** ≥15,000 square feet (SF) (in LURC or DEP territories) to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill, and regulated discharges associated with excavation. Mechanical clearing without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps. **2.** Specific activities with impacts of any area ≥15,000 SF required to affect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority. Wetlands must be restored in place. **3.** Temporary structures, work, and discharges (including construction mats[4]) ≥15,000 SF necessary for construction activities or access fills or dewatering of construction sites, provided that the associated primary activity is authorized by the Corps, authorized under Category 1, or not subject to Corps regulation. GCs 16 -19 are particularly relevant. See GC 2 and Appendix C for wetland delineation requirements.

ACTIVITY	CATEGORY 1	CATEGORY 2
(b) BANK STABILIZATION PROJECTS	**1.** Inland bank stabilization <500 FT long and <1 CY of fill per linear foot below OHW, provided: • ≤1 cubic yard of fill per linear foot placed along the bank waterward of ordinary high water. • Work complies with the GCs (GC 20 in particular), including: o No structures angled steeper than 1H:1V allowed. Only rough-faced stone or fiber roll revetments allowed. o No in-stream work involving fill or excavation in flowing waters (see GC 22(h)). • In-stream work limited to Jul 15 - Oct 1 [see GC 22 (l)]. • No work in vernal pools[5] or SAS[3]. • GC 10 Endangered Species and GC 11 Essential Fish Habitat are particularly relevant.	**1.** Inland bank stabilization ≥500 FT long and/or ≥1 CY of fill per linear foot, or any amount with fill in wetlands.
(c) RIVER/ STREAM/ BROOK WORK & CROSSINGS *and* WETLAND CROSSINGS	**1.** River, stream and brook work and crossings: • Must comply with GC 22 in particular, including: o No slip lining [see GC 22 (g)]. o No in-stream work involving fill or excavation in flowing waters [see GC 22(h)]. o In-stream work limited to Jul 15 - Oct 1 [see GC 22 (l)]. • No work in riffles and pools[3]. • No stream relocations. • No dams or dikes[6]. • Work in areas designated as Atlantic salmon critical habitat or occupied by listed Atlantic salmon, or any other area occupied by a listed species is not eligible for Category 1 (see GC 10). • No work in EFH streams except for the activities stated in GC 11. **2.** Wetland crossings must comply with the particularly relevant GC 23.	**1.** Work not qualifying for Category 1.

ACTIVITY	CATEGORY 1	CATEGORY 2
(d) REPAIR, REPLACEMENT, & MAINTENANCE OF AUTHORIZED FILLS	**1.** Repair or maintenance of existing, currently serviceable, authorized fills with no expansion or change in use: • Conditions of the original authorization apply • Minor deviations in fill design allowed.[7] • The repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events is authorized, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage.	**2.** Replacement of non-serviceable fills, or repair/maintenance of serviceable fill, with expansion <3 acres, or with a change in use.
(e) MISCELL-ANEOUS	**1.** Activities required for the containment and cleanup of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) provided that the work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR 112.3 and any existing state contingency plan and provided that the Regional Response Team (if one exists in the area) concurs with the proposed containment and cleanup action. SAS[3] must typically be restored in place at the same elevation. **2.** Scientific measurement devices whose purpose is to measure and record scientific data, such as staff gages, water recording devices, water quality testing and improvement devices, and similar structures. This excludes any biological sampling devices. Structures may not restrict movement of aquatic organisms. **3.** Survey activities, such as core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching, soil surveys, sampling, and historic resources surveys (but not recovery). Exploratory trenches must be restored in accordance with GC 19. The construction of temporary pads is authorized provided the discharge doesn't exceed 25 CY. This doesn't authorize permanent structures or the drilling and the discharge of excavated material from test wells for oil and gas exploration (the plugging of such wells is authorized). **4.** Any work not commenced nor completed that was authorized in a written letter from the Corps under the PGP in effect between October 11, 2005 and October 11, 2010. The terms and general conditions of this GP apply along with any special conditions in the written authorization.	**1.** Aquatic habitat restoration, establishment, and enhancement of wetlands and riparian areas and the restoration and enhancement of streams and other open waters with impacts of any area ≥15,000 SF, provided those activities result in net increase in overall aquatic resource functions and services.[8] **2.** Projects where an EIS is required by the Corps are not eligible for Category 2.

II. NAVIGABLE WATERS	**Navigable Waters of the United States**: Waters that are subject to the ebb and flow of the tide and/or the tidal and non-tidal portions of the Federally designated navigable waters (the Penobscot River, Kennebec River, and Lake Umbagog) (Section 10 Rivers and Harbors Act of 1899). The jurisdictional limits are the mean high water (MHW) line in tidal waters and the ordinary high water (OHW) mark in non-tidal portions of the federally designated navigable rivers. For the purposes of this GP, fill placed in the area between the mean high water (MHW) and the high tide line (HTL), and in the bordering and contiguous wetlands[1] to tidal waters are also reviewed in this Navigable Waters section.	
	Projects not meeting Category 1 require an application for review as a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 - 4) and general conditions (Pages 5 - 18).	
ACTIVITY	**CATEGORY 1**	**CATEGORY 2**
(a) **FILL**	**1.** Discharges of dredged or fill material incidental to the construction of bridges across navigable waters of the U.S., including cofferdams, abutments, foundation seals, piers, and temporary construction and access fills provided the U.S. Coast Guard authorizes such discharges as part of the bridge permit or appropriate approval. Causeways and approach fills are not included in this category and require Category 2 or Individual Permit authorization. **2.** Bank stabilization projects <200 linear feet: • ≤1 cubic yard of fill per linear foot placed along the bank waterward of high tide line. No fill or equipment will occur in SAS[3]. • Work conducted in the intertidal zone must be conducted in-the-dry during low water, or between Nov. 8 – Apr. 9. • No structures angled steeper than 1H:1V and only rough-faced stone or fiber roll revetments allowed. • No driving of piles or sheeting. **3.** For 1 and 2 above: • Project proponents must contact the USFWS for work on coastal beaches to ensure no impacts to piping plovers, roseate terns or their habitat [see GC 10(b)ii].	**1.** <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
(b) STREAM WORK & CROSSINGS, *and* WETLAND CROSSINGS	**1.** No new fill for crossings allowed.	**1.** New crossings or replacement crossings that do not fit the (c) Repair and Maintenance activity below.

ACTIVITY	CATEGORY 1	CATEGORY 2
(c) REPAIR AND MAINTENANCE WORK	**1.** Repair, replacement in-kind, or maintenance[7] of existing, currently serviceable[7], authorized structures or fills: • Conditions of the original authorization apply. • No substantial expansion or change in use. • Must be rebuilt in same footprint, however minor deviations in structure design allowed[7]. • The repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events is authorized, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. Minor deviations for work involving piles shall adhere to one of the 4 methods in a - d below: **a.** Piles installed in-the-dry during low water or in-water between Nov. 8th - Apr. 9th, or **b.** Must be drilled and pinned to ledge, or **c.** Vibratory hammers used to install any size and quantity of wood, concrete or steel piles, or **d.** Impact hammers limited to one hammer and <50 piles installed/day with the following: wood piles of any size, concrete piles ≤18-inches diameter, steel piles <12-inches diameter if the hammer is ≤3000 lbs and a wood cushion is used between the hammer and steel pile, and • For b – d above: o In-water noise levels shall not exceed >187dB SEL re 1µPa or 206dB peak re 1µPa at a distance >10m from the pile being installed~~.~~, and o In-water noise levels >155dB peak re 1µPa shall not exceed 12 consecutive hours on any given day and a 12 hour recovery period (i.e., in-water noise below 155dB peak re 1µPa) must be provided between work days. • For a – d above: o Work is not eligible for Category 1 if conducted in tidal portions of the Penobscot river upstream of a line extending from Turner point in Castine to Moose Point (formerly squaw point) on Cape Jellison in Stockton Springs or in tidal portions of the Kennebec or Androscoggin Rivers upstream of a line extending from Doubling point in Arrowsic to Hospital Point in West Bath.	**1.** Replacement of non-serviceable structures and fills or repair/maintenance of serviceable structures or fills, with fill, replacement or expansion <1 acre, or with a change in use.

ACTIVITY	CATEGORY 1	CATEGORY 2
(d) DREDGING AND ASSOCIATED DISPOSAL	**1.** Maintenance dredging[10] for navigational purposes <1,000 CY with upland disposal. Includes return water from upland contained disposal area, provided: • Proper siltation controls are used. • Dredging & disposal operation limited to Nov. 8 – Apr. 9. • No impact to SAS[3]. • No dredging in intertidal areas. • No dredging in areas considered occupied by listed Atlantic salmon [see GC 10(b)(ii)]. • For dredging in waters outside of Atlantic salmon critical habitat, applicants must contact NMFS (Appendix D) to ensure no impacts to listed species such as shortnose sturgeon. • Project proponents must contact the USFWS for work on coastal beaches to ensure no impacts to piping plovers, roseate terns or their habitat [see GC 10(c)].	**1.** Maintenance dredging[10] ≥1,000 CY, new dredging <25,000 CY, or projects not meeting Category 1. Includes return water from upland contained disposal areas. Disposal includes: • Upland. • Beach nourishment (above mean high water) of any area provided dredging's primary purpose is navigation or sand is from an upland source. • Open water & confined aquatic disposal, if Corps finds the material suitable. **2.** Beach nourishment associated with dredging when the primary purpose is not navigation requires at least a Category 2 review. **3.** Maintenance or new dredging[10] and/or disposal in or affecting a SAS[3] requires an Individual Permit. See II(a) above for dredge disposal in wetlands or waters.
(e) MOORINGS	**1.** Private, non-commercial, non-rental, single-boat moorings, provided: • Authorized by the local harbormaster/town. • Not associated with any boating facility.[11] • Boat or mooring not located in a Federal Navigation Project[12] other than a Federal Anchorage[12]. Moorings in Federal Anchorage not associated with a boating facility[11] and are not for rent. • No interference with navigation. • No new moorings located in SAS[3]. Prior to installation of moorings, a site-specific eelgrass survey should be conducted to document that eelgrass is not present. • When existing, authorized moorings in SAS[3] are going to be replaced, they shall be replaced with elastic mooring systems that prevent mooring chains from resting or dragging on the bottom substrate at all tides and helical anchors, or equivalent SAS protection systems where practicable. **2.** Minor relocation of previously authorized moorings and moored floats, provided: • Authorized by the local harbormaster/town. • Not located in SAS[3] • No interference with navigation. • Cannot be relocated into a Federal Navigation Project[12] other than a Federal Anchorage[12]	**1.** Moorings associated with a boating facility[11]. An eelgrass[14] survey may be required. **2.** Moorings that don't meet the terms in Category 1 and don't require an Individual Permit. This includes private moorings with no harbormaster or means of local approval. **3.** Moorings located such that they, and/or vessels docked or moored at them, are within the buffer zone of the horizontal limits[13] of a Federal Channel[12]. (See Appendix F.) The buffer zone is equal to 3 times the authorized depth of that channel. **4.** An IP is required for moorings within the horizontal limits[11], or with moored vessels that extend, into the horizontal limits of a Federal Navigation Project[12], except those in Federal Anchorages[12]. For 1-4 above, siting of new individual moorings in SAS[3], including eelgrass[14], should be avoided to the maximum extent practicable. If SAS[3] cannot be avoided, plans should show elastic mooring systems that prevent mooring chains from resting or dragging on the bottom substrate at all tides and helical anchors, or equivalent SAS protection systems, where practicable.

ACTIVITY	CATEGORY 1	CATEGORY 2
(f) STRUCTURES AND FLOATS	**1.** Reconfiguration of existing, authorized structures or floats. Provided: **a**. Piles shall adhere to one of the 4 methods in (i) –(iv) below: **i.** Piles installed in-the-dry during low water or in-water between Nov. 8th - Apr. 9th, or **ii.** Must be drilled and pinned to ledge, or **iii.** Vibratory hammers used to install any size and quantity of wood, concrete or steel piles, or **iv.** Impact hammers limited to one hammer and <50 piles installed/day with the following: wood piles of any size, concrete piles ≤18-inches diameter, steel piles <12-inches diameter if the hammer is ≤3000 lbs and a wood cushion is used between the hammer and steel pile. **b**. For (ii) – (iv) above: **i.** In-water noise levels shall not exceed >187dB SEL re 1µPa or 206dB peak re 1µPa at a distance >10m from the pile being installed~~.~~, and **ii.** In-water noise levels >155dB peak re 1µPa shall not exceed 12 consecutive hours on any given day and a 12 hour recovery period (i.e., in-water noise below 155dB peak re 1µPa) must be provided between work days. **c.** For (i) –(iv) above: **i.** Work is not eligible for Category 1 if conducted in tidal portions of the Penobscot river upstream of a line extending from Turner point in Castine to Moose Point (formerly squaw point) on Cape Jellison in Stockton Springs or in tidal portions of the Kennebec or Androscoggin Rivers upstream of a line extending from Doubling point in Arrowsic to Hospital Point in West Bath.	**1.** Private structures or floats, including floatways/skidways, built to access waterway (seasonal and permanent) **2.** Expansions to existing boating facilities[11]. For 1 & 2 above, compliance with the following design standards is not required but recommended: • Pile-supported structures <400 SF, with attached floats totaling ≤200 SF. • Bottom anchored floats ≤200 SF. • Structures are ≤4' wide and have at least a 1:1 height:width ratio[11]. • Floats supported a minimum of 18" above the substrate during all tides. • Structures & floats not located within 25' of any eelgrass[8]. • Moored vessels not positioned over SAS[4]. • No structure located within 25' of the riparian property boundary without written approval from the abutter(s). • No structure extends across >25% of the waterway width at mean low water. • Not located within the buffer zone of the horizontal limits[13] of a Corps Federal Navigation Project (FNP) (App. F). The buffer zone is equal to three times the authorized depth of that FNP. **3.** An Individual Permit is required for structures or floats, including floatways/skidways, located such that they and/or vessels docked or moored at them are within the horizontal limits[13] of a Corps Federal Navigation Project[12] (see App. F). **4.** An Individual Permit is required for structures & floats associated with a new or previously unauthorized boating facility[11].

ACTIVITY	CATEGORY 1	CATEGORY 2
(g) MISCELL-ANEOUS	**1.** Temporary buoys, markers, floats, etc. for recreational use during specific events, provided they are removed within 30 days after use is discontinued. **2.** The placement of aids to navigation and regulatory markers which are approved by and installed in accordance with the requirements of the U.S. Coast Guard. (See 33 CFR 66, Chapter I, subchapter C)." **3.** Activities required for the containment and cleanup of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) provided that the work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR 112.3 and any existing state contingency plan and provided that the Regional Response Team (if one exists in the area) concurs with the proposed containment and cleanup action. SAS[3] must typically be restored in place at the same elevation. **4.** Fish and wildlife harvesting, enhancement, and attraction devices and activities such as pound nets, crab traps, crab dredging, eel pots, lobster traps, and clam and oyster digging, and small fish attraction devices such as open water fish concentrators (sea kites, etc.). This does not authorize artificial reefs or impoundments and semi-impoundments of waters of the U.S. for the culture or holding of motile species such as lobster, or the use of covered oyster trays or clam racks. No activity that results in a hazard to navigation. Note: A Category 1 Notification Form is not required for these devices and activities. **5.** Scientific measurement devices whose purpose is to measure and record scientific data, such as staff gages, water recording devices, water quality testing and improvement devices, and similar structures. Structures may not restrict movement of aquatic organisms. No activity results in a hazard to navigation. **6.** Survey activities such as exploratory drilling, surveying and sampling activities, excluding any biological sampling devices. Does not include oil and gas exploration and fill for roads or construction pads. No activity results in a hazard to navigation. Applicants must contact NMFS to ensure no impacts to listed species.	**1.** Structures or work in or affecting tidal or navigable waters, that are not defined under any of the previous headings listed above. Includes, but is not limited to, utility lines, aerial transmission lines, pipelines, outfalls, boat ramps, floatways/skidways, bridges, tunnels and horizontal directional drilling activities seaward of the mean high water line. **2.** Shellfish/finfish (other than Atlantic salmon), or other aquaculture facilities with no more than minimal individual and cumulative impacts to environmental resources or navigation. –Aquaculture guidelines are provided at: www.maine.gov/dmr/aquaculture/index.htm. **3.** Specific activities with impacts of any area required to affect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority. Wetlands must typically be restored in place at the same elevation to qualify. **4.** Aquatic habitat restoration, establishment and enhancement provided those activities are proactive and result in net increases in aquatic resource functions and services.[8] **5.** Projects where an EIS is required by the Corps are not eligible for Category 2.

ACTIVITY	CATEGORY 1	CATEGORY 2
(g) MISCELL-ANEOUS (continued)	**7.** Shellfish seeding (brushing the flats[9]) projects. **8.** Marine railway work not eligible for maintenance[7] (i.e. not currently serviceable[7] or in non-compliance) may be replaced "in-kind" with minor deviations[7] provided: • Work is in the intertidal zone • No fill expansion below high tide line. • Work conducted in-the-dry during low water or in-water between Nov. 8 – Apr. 9. **9.** Test plots <100 SF for the planting of wetland species native to the area. No grading, no structures, no plant growing devices and no interference with navigation, which require at least Category 2 review. **10.** Any work not commenced nor completed that was authorized in a written letter from the Corps under the PGP in effect between October 11, 2005 and October 11, 2010. The terms and general conditions of this GP apply along with any special conditions in the written authorization	

Endnotes/Definitions

[1] **Bordering and Contiguous Wetlands:** A bordering wetland is immediately next to its adjacent waterbody and may lie at, or below, the ordinary high water mark (mean high water in navigable waters) of that waterbody and is directly influenced by its hydrologic regime. Contiguous wetlands extend landward from their adjacent waterbody to a point where a natural or manmade discontinuity exists. Contiguous wetlands include bordering wetlands as well as wetlands that are situated immediately above the ordinary highwater mark and above the normal hydrologic influence of their adjacent waterbody. Note, with respect to the federally designated navigable rivers, the wetlands bordering and contiguous to the tidally influenced portions of those rivers are reviewed under "II. Navigable Waters."

[2] **Direct, Secondary, and Cumulative Impacts/Effects:**

Direct Impacts: The immediate loss of aquatic ecosystem within the footprint of the fill.

Secondary Impacts: These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final section 404 action is taken by permitting authorities. Some examples of secondary effects on an aquatic ecosystem are a) fluctuating water levels in all impoundment and downstream associated with the operation of a dam, b) septic tank leaching and surface runoff from residential or commercial developments on fill, and c) leachate and runoff from a sanitary landfill located in waters of the U.S. Put another way, secondary effects are those impacts outside the footprint of the fill that arise from and are associated with the discharge of dredged or fill material, including the operation of an activity or facility associated with the discharge. Examples may include habitat fragmentation; interruption of travel corridors for wildlife (for example, for amphibians that migrate to and from seasonal or vernal pools used as breeding habitat); hydrologic regime changes; and impacts from operation and maintenance activities for constructed facilities; such as noise/lighting, storm water runoff, and road kill of wetland dependent wildlife. Using the directions contained in the guidelines, we consider the circumstances of a proposed discharge and the project of which it is a part to evaluate the scope, extent, severity, and permanence of direct, secondary, and cumulative adverse effects upon the aquatic ecosystem.

Cumulative Impacts: The extent of past, present, and foreseeable developments in the area may be an important consideration in evaluating the significance of a particular project's impacts. Although the impacts associated with a particular discharge may be minor, the cumulative effect of numerous similar discharges can result in a large impact. Cumulative impacts should be estimated only to the extent that they are reasonable and practical.

[3] **Special Aquatic Sites:** Includes wetlands and saltmarsh, mudflats, riffles and pools, and vegetated shallows (predominantly comprised of eelgrass in Maine).

[4] **Construction Mats:** Constructions, swamp and timber mats (herein referred to as "construction mats") are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together. Corduroy roads, which are not considered to be construction mats, are cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures. Like construction mats, they are considered as fill whether they're installed temporarily or permanently.

[5] **Vernal Pools:** A vernal pool, also referred to as a seasonal forest pool, is a temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp (*Eubranchipus* sp.), as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition. For the purposes of this GP, the presence of any of the following species in any life stage in any abundance level/quantity would designate the waterbody as a vernal pool: fairy shrimp, blue spotted salamanders, spotted salamanders or wood frogs. The Corps may determine during a Category 2 review that a waterbody should not be regulated as a VP based on available evidence. For the purposes of this GP*, the VP Management Areas are the: Vernal Pool Depression (includes the vernal pool depression up to the spring or fall high water mark, and includes any vegetation growing within the depression), Vernal Pool Envelope (area within 100 FT of the VP Depression's edge) and Critical Terrestrial Habitat (area within 100-750 FT of the Vernal Pool Depression's edge). [*Note: Critical Terrestrial Habitat is defined as 100 -750 FT on page 243 of the document "Science and Conservation of Vernal Pools in Northeastern North America," Calhoun and deMaynadier, 2008, which is referenced in Appendix E, page 3, Paragraph 10(b).

[6] **Water Diversions:** Water diversions are activities such as bypass pumping or water withdrawals. Temporary flume pipes, culverts or cofferdams where normal flows are maintained within the stream boundary's confines aren't water diversions. "Normal flows" are defined as no change in flow from pre-project conditions.

[7] **Maintenance: a)** In accordance with 33 CFR 323.4(a)(2), any discharge of dredged or fill material that may result from any of the following activities is not prohibited by or otherwise subject to regulation under Section 404 of the CWA: "Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Maintenance does not include any modification that changes the character, scope, or size of the original fill design." Otherwise, the following work is regulated and subject to the Category 1 or 2 thresholds in Appendix A above: The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3 – "Activities occurring before certain dates," provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. **b)** Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make repair, rehabilitation, or replacement are authorized. **c)** Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction. **d)** No seaward expansion for bulkheads or any other fill activity is considered Category 1 maintenance. **e)** Only structures or fills that were previously authorized and are in compliance with the terms and condition of the original authorization can be maintained as a non-regulated activity under 33 CFR 323.4(a)(2), or in accordance with the Category 1 or 2 thresholds in Appendix A. **f)** The state's maintenance provisions may differ from the Corps and may require reporting and written authorization from the state. **g)** Contact the Corps to determine whether stream crossing replacements require a written application to the Corps for at least a Category 2 review.

[8] **Aquatic Habitat Restoration, Establishment and Enhancement:** The Corps will decide if a project qualifies and must determine in consultation with federal and state agencies that the net effects are beneficial. The Corps may refer to Nationwide Permit 27 published in the 3/12/07 Federal Register. Activities authorized here may include, but are not limited to: the removal of accumulated sediments; the installation, removal, and maintenance of small water control structures, dikes, and berms; the installation of current deflectors; the enhancement, restoration, or establishment of riffle and pool stream structure; the placement

of in-stream habitat structures; modifications of the stream bed and/or banks to restore or establish stream meanders; the backfilling of artificial channels and drainage ditches; the removal of existing drainage structures; the construction of small nesting islands in inland waters**;** the construction of open water areas; the construction of native shellfish species habitat over unvegetated bottom for the purpose of habitat protection or restoration in tidal waters; shellfish seeding; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation and the planting of appropriate wetland species; mechanized land clearing to remove non-native invasive, exotic, or nuisance vegetation; and other related activities. Only native plant species should be planted at the site.

[9] **Brushing the Flats:** The placement of tree boughs, wooden lath structure, or small-mesh fencing on mudflats to enhance recruitment of soft-shell clams (*Mya arenaria*).

[10] **Maintenance Dredging:** This includes only those areas and depths previously authorized by the Corps and dredged.

[11] **Boating Facilities:** Facilities that provide for a fee, rent, or sell mooring space, such as marinas, yacht clubs, boat clubs, boat yards, town facilities, dockominiums, etc.

[12] **Federal Navigation Projects (FNPs):** FNPs are comprised of Federal Channels and Federal Anchorages. See Appendix F for their location and contact the Corps for more information. "Horizontal Limits" is the outer edge of an FNP. "Buffer Zone" is equal to three times the authorized depth of that channel.

[13] **Horizontal Limits:** The outer edge of a Federal Navigation Project (FNP). See Appendix F and contact the Corps for information on FNP's.

[14] **Eelgrass (Zostera marina):** A type of rooted aquatic vegetation that exists in intertidal and shallow subtidal areas known as vegetated shallows. See www.nero.noaa.gov/hcd/ for eelgrass survey guidance.

[15] **Structures:** The height of structures shall at all points be equal to or exceed the width of the deck. For the purpose of this definition, height shall be measured from the marsh substrate to the bottom of the longitudinal support beam.

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Appendix B: Category 1 Notification Form

(for all Inland and Navigable Water Projects
in Maine subject to Corps jurisdiction)

Two (2) weeks **before** work commences, submit this to the following mailing address or complete the form at www.nae.usace.army.mil/reg, "State General Permits," "Maine." Call (207) 623-8367 with any questions.

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

State Permit Number: _____
Date of State Permit: _____
State Project Manager: _____

Permittee: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

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

Consultant/Engineer/Designer: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Wetland/Vernal Pool Consultant: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Project Location/Description: _____
Address, City, State & Zip: _____
Latitude/Longitude Coordinates: _____
Waterway Name: _____
Work Description: _____
_____
Provide any prior Corps permit numbers: _____
Proposed Work Dates: Start: _____ Finish: _____

Area of wetland impact: _____ SF (leave blank if work involves structures & no fill in Navigable Waters)
Area of waterway impact: _____ SF (leave blank if work involves structures & no fill in Navigable Waters)
Area of compensatory mitigation provided: _____ SF

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

I. Inland Waters and wetlands: a b c d e
II. Navigable Waters: a b c d e f g

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

Permittee Printed Name: _____

Permittee Signature: _____ Date: _____

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Appendix C: Information Typically Required for Department of the Army Permits

(Category 2 & Individual Projects)

The following information may not be necessary for all projects. For a more comprehensive checklist, go to www.nae.usace.army.mil/reg "Forms" and then "Application and Plan Guideline Checklist." Please check with our Maine office for project-specific requirements at (207) 623-8367.

All Projects:

- ☐ Corps application form (ENG Form 4345) as appropriate.
- ☐ Photographs of wetland/waterway to be impacted.
- ☐ Purpose of the project.
- ☐ Legible, reproducible black and white (no color) plans no larger than 11"x17" with bar scale. Provide locus map and plan views of the entire property.
- ☐ Typical cross-section views of all wetland and waterway fill areas and wetland replication areas.
- ☐ In navigable waters, show mean low water (MLW) and mean high water (MHW) elevations. Show the high tide line (HTL) elevations when fill is involved. In other waters, show ordinary high water (OHW) elevation.
- ☐ On each plan, show the following for the project:
  - ☐ Vertical datum and the NAVD 1988 equivalent with the vertical units as U.S. feet. Don't use local datum. In coastal waters this may be mean higher high water (MHHW), mean high water (MHW), mean low water (MLW), mean low lower water (MLLW) or other tidal datum with the vertical units as U.S. feet. MLLW and MHHW are preferred. Provide the correction factor detailing how the vertical datum (e.g., MLLW) was derived using the latest National Tidal Datum Epoch for that area, typically 1983-2001.
  - ☐ Horizontal state plane coordinates in U.S. survey feet based on the [insert state grid system] for the [insert state] [insert zone] NAD 83.
- ☐ Show project limits with existing and proposed conditions.
- ☐ Limits of any Federal Navigation Project in the vicinity of the project area and horizontal State Plane Coordinates in U.S. survey feet for the limits of the proposed work closest to the Federal Navigation Project;
- ☐ Volume, type, and source of fill material to be discharged into waters and wetlands, including the area(s) (in square feet or acres) of fill in wetlands, below the ordinary high water in inland waters and below the high tide line in coastal waters.
- ☐ Delineation of all waterways and wetlands on the project site, including vernal pools:
  - ☐ Use federal delineation methods and include Corps wetland delineation data sheets. See GC 2; Endnotes 1, 3 and 14 in Appendix A; and www.nero.noaa.gov/hcd for eelgrass survey guidance.
  - ☐ Appendix A, (e) Moorings, contains eelgrass survey requirements for the placement of moorings.
  - ☐ Labels on the plans should indicate whether the federal wetland is also a ME DEP "Wetlands of Special Significance," i.e, coastal wetland, great pond, or one of the eight "Freshwater Wetlands of Special Significance" such as "Critically imperiled or imperiled community," "Significant wildlife habitat," etc. [see Appendix E, 10(a)].
- ☐ For activities involving discharges of dredged or fill material into waters of the U.S., include a statement describing how impacts to waters of the U.S. are to be avoided and minimized, and either a statement describing how impacts to waters of the U.S. are to be compensated for (or a conceptual or detailed mitigation plan) or a statement explaining why compensatory mitigation should not be required for the proposed impacts. Please contact the Corps for guidance.

- ☐ Provide information on secondary and cumulative effects associated with the project (see GC 3).
- ☐ Indicate that application materials were submitted to the Maine Historic Preservation Commission (MHPC) and the appropriate tribes (see Section 3(d) on Page 4).
- ☐ The name(s) of federal endangered and threatened "listed species or habitat" present in the action area (see GC 10 and Appendix E).
- ☐ Identify and describe potential impacts to Essential Fish Habitat (see GC 11).
- ☐ Invasive Species Control Plan (see GC 29).

Information typically required for dredging projects:

- ☐ Sediment testing, including physical (e.g., grain-size analysis), chemical and biological testing. For projects proposing open water disposal, applicants are encouraged to contact the Corps as early as possible regarding sampling and testing protocols. Sampling and testing of sediments without such contact should not occur and if done, would be at the applicant's risk.
- ☐ The area in square feet and volume of material to be dredged below mean high water.
- ☐ Existing and proposed water depths.
- ☐ Type of dredging equipment to be used.
- ☐ Nature of material (e.g., silty sand).
- ☐ Any existing sediment grain size and bulk sediment chemistry data for the proposed or any nearby projects.
- ☐ Information on the location and nature of municipal or industrial discharges and occurrence of any contaminant spills in or near the project area.
- ☐ Shellfish survey.
- ☐ Location of the disposal site (include locus sheet).
- ☐ Identify and describe potential impacts to Essential Fish Habitat (see GC 11).
- ☐ Delineation of submerged aquatic vegetation (e.g., eelgrass beds).

Appendix D: Contacts and Tribal Areas of Interest

1. FEDERAL

U.S. Army Corps of Engineers
Maine Project Office
675 Western Avenue #3
Manchester, Maine 04351
(207) 623-8367; (207) 623-8206 (fax)

Federal Endangered Species
U.S. Fish and Wildlife Service
Maine Field Office
17 Godfrey Drive, Suite 2
Orono, Maine 04473
(207) 866-3344; (207) 866-3351 (fax)

Wild and Scenic Rivers
National Park Service
North Atlantic Region
15 State Street
Boston, Massachusetts 02109
(617) 223-5203

Bridge Permits
Commander (obr)
First Coast Guard District
One South Street - Battery Bldg
New York, New York 10004
(212) 668-7021; (212) 668-7967 (fax)

Federal Endangered Species
National Marine Fisheries Service
Maine Field Office
17 Godfrey Drive Suite 1
Orono, ME 04473
(207) 866-7379; (978) 866-7342 (fax)

Federal Endangered Species & EFH
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, Massachusetts 01930
(978) 281-9102; (978) 281-9301 (fax)

2. STATE OF MAINE

Maine Department of Environmental Protection (for State Permits & Water Quality Certifications)
Division of Land Resource Regulation
Bureau of Land and Water Quality
17 State House Station
Augusta, Maine 04333
(207) 287-7688

Southern Maine Regional Office
312 Canco Road
Portland, Maine 04103
(201) 822-6300

Eastern Maine Regional Office
106 Hogan Road
Bangor, Maine 04401
(207) 941-4570

Northern Maine Regional Office
1235 Central Drive - Skyway Park
Presque Isle, Maine 04769
(207) 764-0477

Maine Land Use Regulation Commission (LURC) (www.maine.gov/doc/lurc/offices.html)
22 State House Station
Augusta, Maine 04333-0022
(207) 287-2631; (207) 287-7439 (fax)

Lakeview Drive
P.O. Box 1107
Greenville, Maine 04441
(207) 695-2466; (207) 695-2380 (fax)

106 Hogan Rd, Suite 7
Bangor, Maine 04401
(207) 941-4052; (207) 941-4222 (fax)

45 Radar Road
Ashland, ME 04732-3600
(207) 435-7963; (207) 435-7184 (fax)

191 Main Street
East Millinocket, ME 04430
(207) 746-2244; (207) 746-2243 (fax)

(For CZM Determinations)
State Planning Office
Coastal Program
184 State Street
State House Station 38
Augusta, Maine 04333
(207) 287-1009

(For Aquaculture Leases)
Maine Department of Marine Resources
P.O. Box 8
West Boothbay Harbor, Maine 04575
(207) 633-9500

(For Submerged Lands Leases)
Maine Department of Conservation
Bureau of Parks and Lands
22 State House Station
Augusta, Maine 04333
(207) 287-3061

3. HISTORIC PROPERTIES

Maine Historic Preservation Commission (MHPC)
State House Station 65
Augusta, Maine 04333-0065
(207) 287-2132; (207) 287-2335 (fax)

Houlton Band of Maliseet Indians
Attn: Sharri Venno, Environmental Planner
88 Bell Road
Littleton, Maine 04730
(207) 532-4273, x215; (207) 532-1883 (fax)
envplanner@maliseets.com

Passamaquoddy Tribe of Indians
Pleasant Point Reservation
Attn: Donald Soctomah, THPO
P.O. Box 343
Perry, Maine 04667
(207) 853-2600; (207) 853-6039 (fax)

Aroostook Band of Micmacs
Attn: Victoria Higgins, Chief
7 Northern Road
Presque Isle, Maine 04769
(207) 764-1972; (207) 764-7667 (fax)

Passamaquoddy Tribe of Indians
Indian Township Reservation
Attn: Donald Soctomah, THPO
P.O. Box 301
Princeton, Maine 04668
(207) 796-2301; (207) 796-5256 (fax)

Penobscot Indian Nation
Indian Island Reservation
Attn: Ms. Bonnie Newsom, THPO
12 Wabanaki Way
Indian Island, Maine 04468
(207) 817-7471; (207) 817-7450 (fax)

4. ORGANIZATIONAL WEBSITES:

Army Corps of Engineers, N.E. District	www.nae.usace.army.mil/reg
Army Corps of Engineers, Headquarters	www.usace.army.mil/CECW/Pages/cecwo_reg.aspx
Environmental Protection Agency	www.epa.gov/owow/wetlands
National Marine Fisheries Service	www.nmfs.noaa.gov
U.S. Fish and Wildlife Service	www.fws.gov/mainefieldoffice
National Park Service	www.nps.gov/rivers/index.html
State of Maine	www.maine.gov
Maine Department of Environmental Protection	www.maine.gov/dep
Maine Land Use Regulation Commission	www.maine.gov/doc/lurc
State of Maine -Aquaculture Guidelines	www.maine.gov/dmr/aquaculture/index.htm

Appendix E: Additional References

1. GC 2: Federal Jurisdictional Boundaries.
(a) Corps Wetlands Delineation Manual, regional supplements, and Corps Wetland Delineation Data Sheets: www.nae.usace.army.mil/reg and then "Wetlands and Jurisdictional Limits."
(b) The USFWS publishes the 1988 National List of Plant Species that Occur in Wetlands (www.nwi.fws.gov).
The Natural Resources Conservation Service (NRCS) publishes the current hydric soil definition, criteria and lists: http://soils.usda.gov/use/hydric. For the Field Indicators for Identifying Hydric Soils in N.E., see www.neiwpcc.org/hydricsoils.asp.

2. GC 5:
Single and complete project means the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. For example, if construction of a residential development affects several different areas of a headwater or isolated water, or several different headwaters or isolated waters, the cumulative total of all filled areas should be the basis for deciding whether or not the project will be covered by Category 1 or 2.
The ***Independent utility*** test is used to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

3. GC 10: Threatened and Endangered Species.
(a) The following NMFS site must be referenced to ensure that listed species or critical habitat are not present in the action area [GC 10(b)] or to provide information on federally-listed species or habitat [GC 10(e)]: www.nero.noaa.gov/prot_res/esp/ListE&Tspec.pdf. Contact the USFWS for information to check for the presence of listed species (see Appendix D for contact information).
(b) The Endangered Species Act Consultation Handbook – Procedures for Conducting Section 7 Consultations and Conferences, defines action area as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. [50 CFR 402.02]."

4. GC 11: Essential Fish Habitat.
As part of the PGP screening process, the Corps may coordinate with NMFS in accordance with the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act to protect and conserve the habitat of marine, estuarine and anadromous finfish, mollusks, and crustaceans. This habitat is termed "Essential Fish Habitat (EFH)", and is broadly defined to include "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." There are EFH waters throughout inland and coastal waters in Maine. For additional information, see the EFH regulations 50 CFR 600 at www.nero.noaa.gov/hcd including the "Guide for EFH Descriptions" at www.nero.noaa.gov/hcd/list.htm. Additional information on the location of EFH can be obtained from NMFS (see Appendix D for contact information).

5. GC 16: Avoidance, Minimization and Compensatory Mitigation.
(a) See www.nae.usace.army.mil/reg and then "Mitigation" to view the April 10, 2008 "Final Compensatory Mitigation Rule" (33 CFR 332) and related documents. The Q&A document states: "In order to reduce risk and uncertainty and help ensure that the required compensation is provided, the rule establishes a preference hierarchy for mitigation options. The most preferred option is mitigation

bank credits, which are usually in place before the activity is permitted. In-lieu fee program credits are second in the preference hierarchy, because they may involve larger, more ecologically valuable compensatory mitigation projects as compared to permittee-responsible mitigation. Permittee-responsible mitigation is the third option, with three possible circumstances: (1) conducted under a watershed approach, (2) on-site and in kind, and (3) off-site/out-of-kind.
(b) Compensatory mitigation may take the form of wetland preservation, restoration, enhancement, creation, and/or in lieu fee (ILF) for inclusion into the Natural Resources Mitigation Fund for projects in DEP and LURC territories. Avoidance of wetland impacts will reduce the ILF dollar total for applicants. The ILF compensation program was established to provide applicants with a flexible compensation option over and above traditional permittee responsible compensation projects. See the Maine ILF Agreement at www.nae.usace.army.mil/reg, "Mitigation" and then "Maine," or www.maine.gov/dep/blwq/docstand/nrpa/ILF_and_NRCP/index.htm.

6. GCs 19 and 29: Invasive Species.
(a) Information on what are considered "invasive species" is provided in our "Compensatory Mitigation Guidance" document at www.nae.usace.army.mil/reg under "Mitigation." The "Invasive Species" section has a reference to our "Invasive Species Control Plan (ISCP) Guidance" document, located at www.nae.usace.army.mil/reg under "Invasive Species," which provides information on preparing an ISCP.
(b) The June 2009 "Corps of Engineers Invasive Species Policy" is at www.nae.usace.army.mil/reg under "Invasive Species" and provides policy, goals and objectives.

7. GC 20: Bank Stabilization.
This generally eliminates bodies of water where the reflected wave energy may interfere with or impact on harbors, marinas, or other developed shore areas. A revetment is sloped and is typically employed to absorb the direct impact of waves more effectively than a vertical seawall. It typically has a less adverse effect on the beach in front of it, abutting properties and wildlife. See the Corps Coastal Engineering Manual EM 1110-2-1100 at www.nae.usace.army.mil/reg under "Useful Links and Documents" for design and construction guidance.

8. GC 22: Stream Crossings and Work.
(a) Projects should be designed and constructed to ensure long-term success using the most recent manual located at www.nae.usace.army.mil/reg under "Stream and River Continuity," currently "Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream Crossings, by the U.S. Forest Service." Section 5.3.3 is of particular importance. Sections 7.5.2.3 Construction Methods and 8.2.11 Stream-Simulation Bed Material Placement both show important steps in the project construction.
(b) For more information on High-Quality Stream Segments and their components see:
- **i.** High-Quality Stream Segments are shown at www.maine.gov/dep/gis/datamaps.
- **ii.** Class A Waters or Class AA Waters:

www.mainelegislature.org/legis/statutes/38/title38sec465.html, and
www.mainelegislature.org/legis/statutes/38/title38sec467.html.
- **iii.** Outstanding river segments www.mainelegislature.org/legis/statutes/38/title38sec480-P.html.

(c) The Massachusetts Dam Removal and the Wetland Regulations guidance may be used to evaluate the positive and negative impacts of culvert replacement, including the loss of upstream wetlands, which may be offset by the overall benefits of the river restoration. See www.nae.usace.army.mil/reg and then "Stream and River Continuity."
(d) The ME DOT's document "Waterway and Wildlife Crossing Policy and Design Guide for Aquatic Organism, Wildlife Habitat, and Hydrologic Connectivity," 3rd Edition, July 2008, may be used to

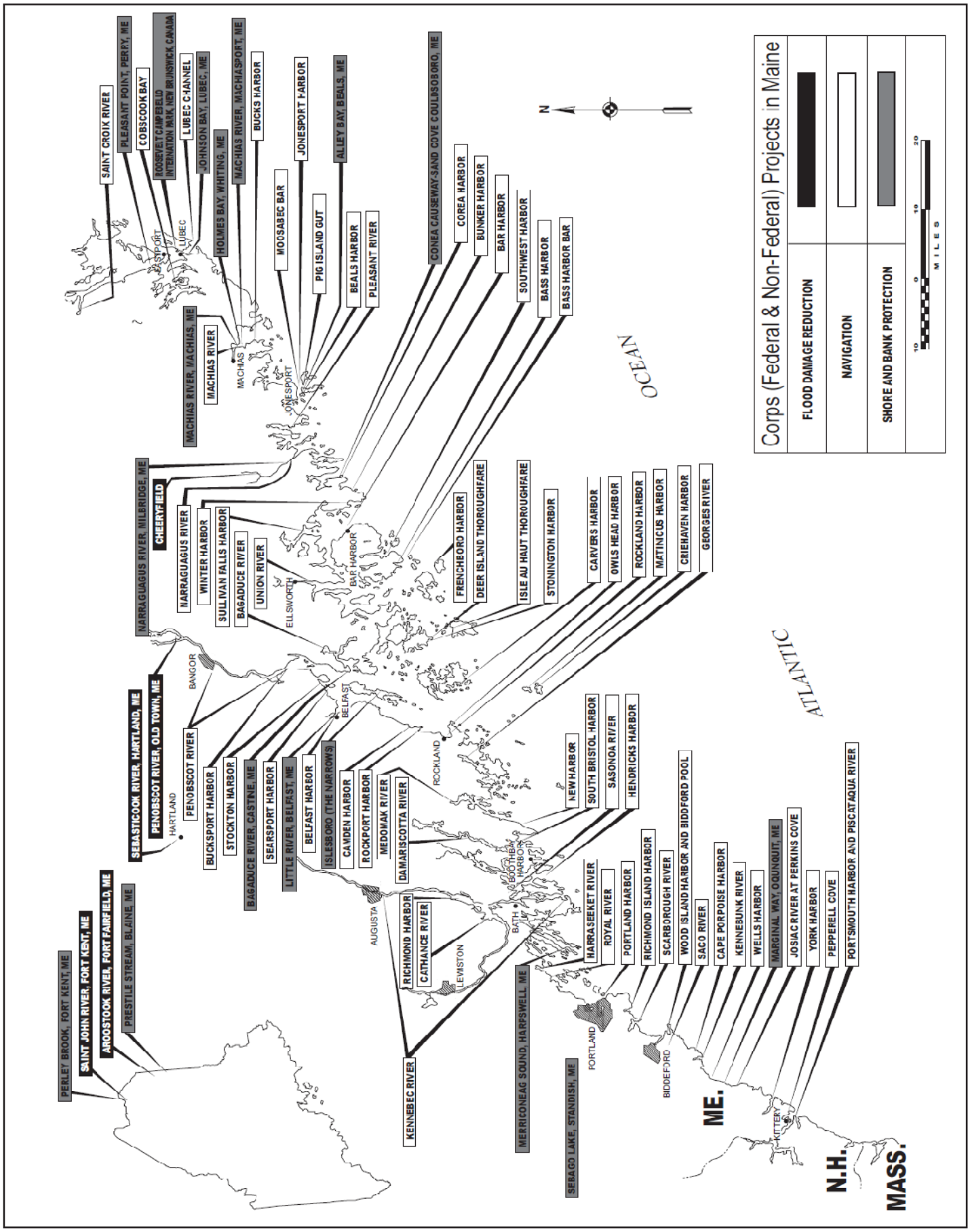
evaluate impacts to aquatic, wildlife and surface water resources when designing, constructing, repairing and maintaining stream crossings. Note: Adherence to this DOT document does not ensure compliance with this GP. Projects must comply with the requirements of this GP including GC 22 and the Corps General Stream Crossing Standards contained therein.
www.maine.gov/mdot/environmental-office-homepage/fishpassage/3rd%20edition%20-%20merged%20final%20version%207-01-08a1.pdf.
(e) GC 22(f): The Skidder Bridge Fact Sheet at www.nae.usace.army.mil/reg under "Stream and River Continuity" may be a useful temporary span construction method.

9. GC 23: Wetland Crossings. The Maine DEP's crossing standards are at 06-096 DEP, Chapter 305: Permit by Rule, 9) Crossings (utility lines, pipes and cables).
www.maine.gov/dep/blwq/rules/NRPA/2009/305/305_effective_2009.pdf

10. GC 28: Protection of Vernal Pools.
(a) The state's Significant Wildlife Habitat rules (Chapter 335, Section 9(C) "Habitat management standards for significant vernal pool habitat") are located at
www.maine.gov/dep/blwq/docstand/nrpapage.htm#rule under "Rules."
(b) The following documents provide conservation recommendations:
i. Best Development Practices: Conserving pool-breeding amphibians in residential and commercial development in the northeastern U.S., Calhoun and Klemens, 2002. Chapter III, Management Goals and Recommendations, Pages 15 – 26, is particularly relevant. (Available for purchase at www.maineaudubon.org/resource/index.shtml and on Corps website*.)
ii. Science and Conservation of Vernal Pools in Northeastern North America, Calhoun and deMaynadier, 2008. Chapter 12, Conservation Recommendations section, Page 241, is particularly relevant. (Available for purchase via the internet. Chapter 12 is available on Corps website*.)
* www.nae.usace.army.mil/reg under "Vernal Pools."
(c) Cape Cod Curbing: For smaller roads and driveways, the most important design feature to consider is curbing. Granite curbs and some traditional curbing can act as a barrier to amphibian and hatchling turtle movements. Large numbers of salamanders have been intercepted in their migrations by curbs and catch basins. Use of Cape Cod curbs rather than traditional curbing may be one solution. Alternatively, where storm water management systems require more traditional curbing, it may be possible to design in escape ramps on either side of each catch basin. Cape Cod curbing is shown on Page 35 of the document cited in 10.b.i above. Bituminous material is not required; other materials such as granite are acceptable.
(d) The VP Directional Buffer Guidance document is located at www.nae.usace.army.mil/reg under: 1) "State General Permits" and then "Maine," and 2) "Vernal Pools."

11. GC 32: Maintenance. River restoration projects that are designed to accommodate the natural dynamic tendencies of the fluvial system are maintained in accordance with the project's design objectives (Category 1) or the Corps authorization letter (Category 2). These projects are generally designed to support and implement channel assessment and management practices that recognize a stream's natural dynamic tendencies.

Appendix F: Corps Projects in Maine



Chapter 305: PERMIT BY RULE

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1. **Introduction.** A "permit by rule" or "PBR", when approved by the Department of Environmental Protection (DEP), is an approval for an activity that requires a permit under the Natural Resources Protection Act (NRPA). Only those activities described in this chapter may proceed under the PBR process. A PBR activity will not significantly affect the environment if carried out in accordance with this chapter, and generally has less of an impact on the environment than an activity requiring an individual permit. A PBR satisfies the Natural Resources Protection Act (NRPA) permit requirement and Water Quality Certification requirement.

   If a proposed activity is not described in this chapter, or will not be conducted in accordance with the standards of this chapter, the applicant must obtain an individual permit prior to beginning the activity.

   A. **Location of activity.** The location of an activity may affect whether an activity qualifies for PBR, and whether review by the Department of Inland Fisheries and Wildlife is required.

      (1) Type of resource. For some types of activities, the availability of a PBR is affected by the type of natural resource in or adjacent to which the activity is proposed. For example, an applicant proposing an activity consisting of "Movement of rocks or vegetation" may receive a PBR only if the activity will take place in a great pond, river, stream or brook. Limitations concerning the location of activities are addressed in the "Applicability" provision in each section of this chapter.

      (2) Essential habitat. Essential habitats include areas critical to the survival of threatened and endangered species such as the bald eagle, least tern, roseate tern, and piping plover. If the activity is located in essential habitat, such as near an eagle nesting site, a PBR is only available if the applicant obtains written approval from the Department of Inland Fisheries and Wildlife (IF&W). This approval from IF&W must be submitted to the DEP with the PBR notification form, and the applicant must follow any conditions stated in the IF&W approval.

NOTE: Maps showing areas of essential habitat are available from the Department of Inland Fisheries and Wildlife regional headquarters, municipal offices, the Land Use Regulation Commission (for unorganized territories) and DEP regional offices. If the activity is located in essential habitat, IF&W must be contacted to request and obtain a "certification of review and approval".

   B. **Notification.** The applicant must file notice of the activity with the DEP prior to beginning work on the activity. The notification must be on a form provided by the DEP and must include any submissions required in this chapter. The applicant must keep a copy to serve as the permit.

      The notification form must be sent to the DEP by certified mail (return receipt requested), or hand delivered to the DEP and date stamped by the department. By signing the notification form, the applicant is representing that the activity will meet the applicability requirements and standards of the rule. In addition, by signing the notification form the applicant represents that the applicant has sufficient title, right, or interest in the property where the proposed activity is to take place.

C. Effective period

(1) Beginning of period. The PBR becomes effective 14 calendar days after the DEP receives the notification form, unless the DEP approves or denies the PBR prior to that date. If the DEP does not speak with or write to the applicant within this 14 day period regarding the PBR notification, the applicant may proceed to carry out the activity.

There are three exceptions regarding the effective date of an approved PBR:

(a) Activities listed in Section 10 (Stream crossings) occurring in association with forest management are exempt from the 14 day waiting period.

(b) Activities listed in Section 10 (Stream crossings) performed or supervised by individuals currently certified in erosion control practices by the DEP are exempt from the 14 day waiting period. To be certified in erosion control practices, an individual must successfully complete all course requirements of the Voluntary Contractor Certification Program administered by the DEP's Nonpoint Source Training and Resource Center.

(c) Activities that are part of a larger project requiring a permit under the Site Location of Development or the Storm Water Management Acts may not proceed until any required permit under those laws is obtained.

NOTE: Activities that are part of a larger project may require other permits from the DEP also. These other laws may prohibit the start of construction of any part of the project unless a permit under that law is obtained. In these cases, while not a violation of this rule, starting work on a PBR approved activity would be a violation of those other applicable laws.

(2) End of period. The PBR is generally effective for 2 years from the date of approval, except that a PBR for "Replacement of structures" under Section 4 is effective for 3 years.

NOTE: Activities that qualify under this chapter may need to meet other local, state and federal requirements. Examples -- (1) If an activity extends below the low water line of a lake, coastal wetland or international boundary water, the applicant should contact the Bureau of Parks and Lands (287-3061) concerning possible lease or easement requirements, or (2) If an activity will involve work below the mean high water line in navigable waters of the United States, the applicant should contact the Army Corps of Engineers (623-8367).

D. Discretionary authority. Notwithstanding compliance with the PBR applicability requirements and standards set forth in this chapter, the DEP may require an individual permit application to be filed in any case where credible evidence indicates that the activity:

(1) May violate the standards of this rule or the NRPA (38 M.R.S.A. Section 480-D);

(2) Could lead to significant environmental impacts, including cumulative impacts; or

(3) Could adversely impact a resource of special concern.

If an individual permit is required pursuant to this subsection, the DEP shall notify the applicant in writing within the 14 calendar day waiting period described in sub-section (C) above. When the DEP notifies an applicant than an individual permit is required, no work may be conducted unless and until the individual permit is obtained.

E. Violations. A violation of law occurs when a person, or his or her agent, performs or causes to be performed any activity subject to the NRPA without first obtaining a permit from the DEP, or acts contrary to the provisions of a permit. The person, his or her agent, or both, may be held responsible for the violation. Commonly, the "person" is the landowner, and the "agent" is the contractor carrying out the activity. A violation occurs when:

(1) An activity occurs that is not allowed under PBR, whether or not a PBR notification form has been filed with and/or approved by the DEP;

(2) An activity occurs that is allowed under PBR, but a PBR for the activity has not become effective prior to the beginning of the activity; or

(3) An activity occurs that is allowed under PBR and a PBR for the activity is in effect, but the standards specified in this chapter are not met.

See the "applicability" provision under each activity for rules concerning what activities are allowed under PBR. A PBR is only valid for the person listed on the notification form, or for his or her agent.

Each day that a violation occurs or continues is considered a separate offense. Violations are subject to criminal penalties and civil penalties of not less than $100 nor more than $10,000 for each day of that violation (38 M.R.S.A. Section 349).

NOTE: A local Code Enforcement Officer (CEO) may take enforcement action for a violation of the Natural Resources Protection Act if he or she is authorized to represent a municipality in District Court, and he or she has been certified as familiar with court procedures, 30-A M.R.S.A. Section 4452(7).

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2. Activities adjacent to protected natural resources

A. Applicability

(1) This section applies to an activity adjacent to, but not in:

(a) A coastal wetland, great pond, river, stream or brook or significant wildlife habitat contained within a freshwater wetland; or

(b) Freshwater wetlands consisting of or containing:

(i) Under normal circumstances, at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, except for artificial ponds or impoundments; or

(ii) Peatlands dominated by shrubs, sedges and sphagnum moss.

(2) This section does not apply to an activity where sustained slopes are steeper than 3 horizontal feet: 1 vertical foot (approximately 33% slope) between the normal high water line or upland edge of the protected resource and the soil disturbance.

(3) Activities that qualify for permit by rule under another section are not required to comply with this section unless expressly stated in that section.

(4) This section does not apply to an activity that is not or will not be in compliance with the terms and conditions of a permit issued under the Site Location of Development Law, 38 M.R.S.A. Sections 481 to 490, the Storm Water Management Law, 38 M.R.S.A. Section 420-D, or the Natural Resources Protection Act, 38 M.R.S.A. Sections 480-A to 480-Z.

(5) This section does not apply to an activity that does not conform to the local shoreland zoning ordinance.

NOTE: Contact the local Code Enforcement Officer for information on local shoreland zoning requirements. In most shoreland areas, a 75 or 100 foot undisturbed buffer strip is required between the disturbed areas and the water or wetland.

B. Submissions

(1) The applicant is required to submit photographs of the area which will be affected by the activity proposed.

(2) Photographs showing the completed project and the affected area must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

(3) A brief narrative explaining why there is no practicable alternative to location of the activity within the 75 foot setback, and how the impact on the remaining buffer and the resource will be minimized. This narrative is not required for those activities presumed to have no practicable alternative as listed in paragraph C(1) of this section.

(4) A scaled plan or drawing of the area affected, including information such as:

(a) The entire property on which the activity will take place, including property lines, the 75 foot setback, and the boundaries or location of protected natural resources such as streams and wetlands;

(b) Proposed and existing development on the parcel including buildings, parking areas, roads, fill areas, landscaped areas, etc.; and

(c) Any site constraints limiting development beyond the 75 foot setback, such as steep slopes.

It is not necessary to have the plan professionally prepared. However, it must be legible and drawn to a scale that allows clear representation of distances and measurements on the plan.

C. Standards

(1) No activity or portion of an activity may be located within the 75 foot setback if there is a practicable alternative location on the parcel that would cause or result in less impact on the environment. The following activities are presumed to have no practicable alternative location on the parcel.

(a) The planting of vegetation for the purpose of controlling erosion or for establishing a vegetative buffer.

(b) The removal or replacement of underground storage tanks when performed in accordance with 38 M.R.S.A. Section 566-A.

(c) The replacement of a structure or the placement or replacement of a foundation or supports for a legally existing structure or addition that is not closer to a protected natural resource than the existing structure provided the municipality has approved the location of the replaced or modified structure. However, any fill, other than that required to maintain the integrity of the structure such as foundation backfill, must meet the 75 foot setback standard unless otherwise approved by the DEP pursuant to this section.

NOTE: In most cases when a structure is being replaced or a foundation is being put under an existing structure that does not meet the setback requirements of the Municipal Shoreland Zoning Ordinance, the applicant is required by the municipality to move the structure back from the natural resource to the maximum extent practicable.

(d) The closure of a landfill in conformance with the DEP's solid waste management rules.

(e) Access way consisting of a footpath, stairway, or steps to the resource.

(2) Except for those activities listed in Section 2(C)(1)(a)-(e) above, a 25 foot setback must be maintained between the normal high water line or upland edge of the protected natural resource and the activity. Areas that have slopes of 3 horizontal feet: 1 vertical foot (approximately 33% slope), or steeper, may not be counted when determining the 25 foot setback. Existing vegetation within the setback may not be disturbed except for cutting activity meeting the exemption requirements in 38 M.R.S.A. Section 480-Q(23).

(3) Disturbance within the setback must be minimized.

(4) The following measures must be taken to prevent erosion of soil or fill material from disturbed areas:

(a) Staked hay bales or silt fence must be properly installed at the edge of disturbed areas between the activity and the resource before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

(5) A footpath to the resource is limited to 6 feet in width and stairs or steps are limited to 4 feet in width.

(6) All work is limited to the location and extent depicted on the plan or plans submitted pursuant to subsection B(4) of this section.

NOTE: For guidance on erosion and sedimentation controls, consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

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

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

(2) **Land adjacent to a protected natural resource**. Any land area within 75 feet, measured horizontally, of the normal high water line of a great pond, river, stream or brook or the upland edge of a coastal wetland or freshwater wetland.

(2-A) **Practicable**. Available and feasible considering cost, existing technology and logistics based on the overall purpose of the project.

(3) **Structure**. Anything built for the support, shelter or enclosure of persons, animals, goods or property of any kind, together with anything constructed or erected with a fixed location on or in the ground. Examples of structures include buildings, utility lines and roads.

(4) **Upland edge**. The boundary between upland and wetland.

NOTE:
Section 480-Q(15-A) of the NRPA exempts the installation, removal or repair of a septic system from permitting requirements as of March 1, 1995, as long as the system complies with all requirements of the subsurface wastewater disposal rules adopted by the Department of Human Services pursuant to 22 M.R.S.A. Section 42(3).

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3. Intake pipes & water monitoring devices

A. Applicability

(1) This section applies to the installation or maintenance of a permanent water intake pipe which will not significantly affect the water level or flow of waters within a coastal wetland, freshwater wetland, great pond, river, stream or brook. This section also applies to the installation of a well in or adjacent to a freshwater wetland or adjacent to a great pond, coastal wetland, river, stream or brook. Allowed uses of water for the purposes of this

section include a water supply for a single family residence and a dry hydrant. Some intake pipes and wells adjacent to a great pond may be exempt by law (see Note 2 at the end of this subsection).

(2) This section also applies to the installation or maintenance of a permanent device used to monitor water elevations, flow or quality including a gauging station, staff gauge, tide gauge, water recording device, water quality testing and improvement device or other similar scientific equipment within a coastal wetland, freshwater wetland great pond, river, stream or brook.

(3) This section does not apply to an activity that is not or will not be in compliance with the terms and conditions of a permit issued under the Site Location of Development Law, 38 M.R.S.A. Sections 481 to 490, the Storm Water Management Law, 38 M.R.S.A. Section 420-D, or the Natural Resources Protection Act, 38 M.R.S.A. Sections 480-A to 480-Z.

(4) This section does not apply to an activity that will not conform to the local shoreland zoning ordinance.

NOTES:

(1) Contact the local Code Enforcement Officer for information on local shoreland zoning requirements.

(2) In a great pond, the placement of water lines to serve a single-family house or the installation of cables for utilities, such as telephone and power cables, is exempt from permit requirements under 38 M.R.S.A. Section 480-Q provided that the:

(a) Excavated trench for access to the water is backfilled and riprapped to prevent erosion;

(b) Excavated trench on the landward side of the riprapped area is seeded and mulched to prevent erosion; and

(c) Bureau of Parks and Lands has approved the placement of the cable across the bottom of the great pond to the extent that it has jurisdiction.

(3) A permit will be required from the US Army Corps of Engineers for the following types of projects:

(a) Any activity involving open trench excavation in a waterbody or wetland;

(b) Any activity in coastal waterways;

(c) Any activity within a river, stream or brook that takes place between October 2 and July 14.; or

(d) Any activity involving work in waterways designated as Essential Fish Habitat for Atlantic salmon including all aquatic habitats in the watersheds of the following rivers and streams, including all tributaries to the extent that they are currently or were historically accessible for salmon migration: St. Croix, Boyden, Dennys, Hobart Stream, Aroostook, East Machias, Machias, Pleasant, Narraguagus, Tunk Stream, Patten Stream,

Orland, Penobscot, Passagassawaukeag, Union, Ducktrap, Sheepscot, Kennebec, Androscoggin, Presumpscot, and Saco River.

A copy of the PBR notification and original photographs, not photocopies, should be submitted to the Corps of Engineers for these activities (US Army Corps of Engineers, 675 Western Avenue, Suite #3, Manchester, ME 04351. Tel. (207) 623-8367).

B. Submissions

(1) For an activity occurring in tidal waters, notice of approval of the timing of the activity from the Department of Marine Resources must be submitted to the DEP with the notification form.

(2) The applicant is required to submit photographs of the area which will be affected by the activity proposed.

(3) Photographs showing the completed project and the affected area must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

C. Standards

(1) The following measures must be taken to prevent erosion of soil or fill material from disturbed areas into the resource:

(a) Staked hay bales or silt fence must be properly installed between the area of soil disturbance and the edge of the resource before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

NOTE: For guidance on erosion and sedimentation controls, consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

(2) Disturbance of wetland vegetation must be avoided if possible. If wetland vegetation must be disturbed during the activity, it must be replaced or reestablished immediately upon completion of the activity and must be maintained.

(3) Non-native wetland plants may not be planted in disturbed areas.

(4) The trench width in any protected natural resource must be no wider than necessary to install the device.

(5) Any trench in or adjacent to the wetland must be refilled with the material that was excavated. The original grading and elevation of the wetland must be restored. Residual fill material must be removed from the wetland or water body and properly stabilized. Pipe bedding material such as crushed stone or sand may be used provided clay dams or synthetic boots are used where appropriate to prevent wetland draining through the bedding material.

(6) The water intake structure may not interfere with any potential boat usage and may not block fish passage.

(7) If the activity occurs within tidal waters, the activity must occur during the time period approved by the Department of Marine Resources.

(8) Excavation of a pool to increase depth is prohibited under this section.

(9) Maintenance clearing of deposited debris and sediments from the intake area is allowed provided the cleared materials are removed from the resource and are disposed of in an upland location at least 75 feet from any open water body and stabilized to prevent erosion unless a closer upland disposal area is approved under Section 2 of this rule. Disposal of any dredged material or debris must be carried out in conformance with Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Sections 1301 *et seq.* Clearing or removal of sediment from a water body for other purposes is not allowed under this section.

(10) If work is performed in a river, stream or brook that is less than three feet deep at the time of the activity and at the location of the activity, the applicant must provide for temporary diversion of flow to the opposite side of the channel while work is in progress.

(a) Diversion may be accomplished by placing sandbags, timbers, sheet steel, concrete blocks, 6+ mil polyethylene or geotextiles from the bank to midstream on the upstream side of the activity. No more than two-thirds (2/3) or 25 feet of stream width, whichever is less, may be diverted at one time.

(b) Any material used to divert water flow must be completely removed upon completion of the activity, and the stream substrate must be restored to its original condition.

(c) A pump may be operated, where necessary, for a temporary diversion. The pump outlet must be located and operated such that erosion or the discharge of sediment to the water is prevented.

(11) Wheeled or tracked equipment may not be operated in the water. Equipment operating on the shore may reach into the water with a bucket, or similar extension. Equipment may cross streams on rock, gravel or ledge bottom.

(12) Wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms in order to protect wetland vegetation.

(13) Work below the high water line of a great pond, river, stream or brook must be done at low water, except as required for emergency flood control work. Measures such as a silt boom or staked fencing must be employed to reduce and isolate turbidity.

(14) Uncured concrete may not be placed directly into the water. Concrete must be pre-cast and cured at least three weeks before placing in the water, or where necessary, must be placed in forms and cured at least one week before the forms are removed. No washing of tools, forms, etc. may occur in or adjacent to the waterbody or wetland.

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

(16) Blasting in inundated areas is prohibited.

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

(1) **Land adjacent to a protected natural resource**. Any land area within 75 feet, measured horizontally, of the normal high water line of a great pond, river, stream or brook or the upland edge of a coastal wetland or freshwater wetland.

(2) **Non-native wetland plants**. Wetland grasses, forbs, shrubs, or trees not native to the State of Maine, for example, common reed (*Phragmites communis*) and purple loosestrife (*Lythrum salicaria*).

4. Replacement of structures

A. Applicability

(1) This section applies to the replacement of an existing permanent structure in, on, or over a coastal wetland, freshwater wetland, great pond, fragile mountain area, or river, stream or brook. Some activities involving maintenance and repair of a permanent structure may not require a permit (see note 2 at the end of this section).

(2) In order to be eligible for this section, the structure must have been in place and functioning as intended within 24 months of the DEP's receipt of the notification form. A permit by rule for replacement is valid for three years from the date of approval.

(3) This section does not apply to the replacement of a structure adjacent to a protected natural resource. (See Section 2: Activities adjacent to protected natural resources.)

(4) This section does not apply to structures located within a sand dune system. (See Section 16: Activities in coastal dune systems.)

(5) This section does not apply to the replacement of a dam or a tidal flood gate.

(6) This section does not apply to an activity that is not or will not be in compliance with the terms and conditions of permits issued under the Site Location of Development Law, 38 M.R.S.A. Sections 481 to 490, the Storm Water Management Law, 38 M.R.S.A. Section 420-D, or the Natural Resources Protection Act, 38 M.R.S.A. Sections 480-A to 480-Z.

(7) This section does not apply to an activity that will not conform to the local shoreland zoning ordinance.

NOTE: Contact the local Code Enforcement Officer for information on local shoreland zoning requirements

B. Submissions

(1) For an activity occurring in tidal waters, notice of approval of timing of the activity from the Department of Marine Resources must be submitted to the DEP with the notification form.

(2) The applicant is required to submit photographs of the area which will be affected by the activity proposed.

(3) Photographs showing the completed project and the affected area must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

(4) A scaled plan or drawing of the structure to be replaced that includes at a minimum the location, width, length and height of the existing structure.

It is not necessary to have the plan professionally prepared. However, it must be legible and drawn to a scale that provides a clear representation of distances and measurements on the plan.

C. Standards

(1) A replaced structure that is located in, on, or over a protected natural resource may not exceed the dimensions, including height, of the previously existing structure, and may not extend any further into the water body or wetland, except that retaining walls may be reinforced with a facing material not exceeding 6 inch in width or may be replaced with riprap in accordance with Section 8 "Shoreline stabilization".

NOTE: Vegetation is the preferred method of erosion control near water bodies. Where the use of vegetation is not feasible, riprap is preferred over retaining walls because it dissipates wave action and is a more stable structure over the long term. The DEP encourages the replacement of retaining walls with riprap, unless the presence of large trees or structures makes its use impractical.

(2) The following measures must be taken to prevent erosion of soil or fill material from disturbed areas into the protected resources:

(a) Staked hay bales or silt fence must be properly installed between the area of soil disturbance and the edge of the resource before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

NOTE: For guidance on erosion and sedimentation controls, consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

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(3) Disturbance of wetland vegetation must be avoided if possible. If wetland vegetation must be disturbed during the activity, it must be reestablished immediately upon completion of the activity and must be maintained.

(4) Non-native wetland plants may not be planted in disturbed areas.

(5) Work done in a river, stream or brook must allow for fish passage and the maintenance of normal stream flows at all times of year and may not impound water.

(6) No dredging may take place during the activity and no material may be removed from the affected natural resource except that rocks that were part of the original structure may be removed or reused.

(7) Work below the high water line of a great pond, river, stream or brook must be done at low water, except as required for emergency flood control work. Measures, such as a silt boom or staked fencing, must be employed to reduce and isolate turbidity.

(8) If the activity occurs within tidal waters, the activity must occur during the time period approved by the Department of Marine Resources.

(9) If work is performed in a river, stream or brook that is less than three feet deep at the time of the activity and at the location of the activity, the applicant must provide for temporary diversion of flow to the opposite side of the channel while work is in progress.

(a) Diversion may be accomplished by placing sandbags, timbers, sheet steel, concrete blocks, 6+ mil polyethylene or geotextiles from the bank to midstream on the upstream side of the activity. No more than two-thirds (2/3) or 25 feet of stream width, whichever is less, may be diverted at one time.

(b) Any material used to divert water flow must be completely removed upon completion of the activity, and the stream substrate must be restored to its original condition.

(c) A pump may be operated, where necessary, for a temporary diversion. The pump outlet must be located and operated such that erosion or the discharge of sediment to the water is prevented.

(10) Wheeled or tracked equipment may not be operated in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom.

(11) All wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms in order to protect wetland vegetation.

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

(13) Uncured concrete may not be placed directly into the water. Concrete must be pre-cast and cured at least three weeks before placing in the water, or where necessary, must be placed in forms and cured at least one week before the forms are removed. No washing of tools, forms, etc. may occur in or adjacent to the waterbody or wetland.

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

(15) The replaced structure may not interfere with, or reduce the opportunity for, existing navigational and recreational uses of the site.

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

(1) **Dam**. Any man-made artificial barrier, including appurtenant works, the site on which it is located and appurtenant rights of flowage and access, that impounds or diverts a river, stream or brook or great pond.

(2) **Dredge**. To move or remove, by digging scooping or suctioning any sand, silt, mud, gravel, rock, or other material from the bottom of a water body or wetland surface.

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

(4) **Land adjacent to a protected natural resource**. Any land area within 75 feet, measured horizontally, of the normal high water line of a great pond, river, stream or brook or the upland edge of a coastal wetland or freshwater wetland.

(5) **Public works project**. A federal, state or local government, or state-regulated utility project for public use or service including, but not limited to, highways, dams, bridges, utility lines, water lines, sewerage, and recreational facilities such as boat launch facilities.

(6) **Replacement**. Any activity that results in more than 50% of a structure being restored or reconstructed whether above or below the normal high water line.

(7) **Retaining wall**. A vertical or near vertical structure generally constructed of wood, concrete or rock or a combination of these materials and located at or below the normal high water line.

(8) **Riprap.** Heavy, irregularly-shaped rocks that are fit into place, without mortar, on a slope. Square or rectangular rocks with flat faces, such as quarry stone or manufactured blocks, do not qualify as "irregularly-shaped".

(9) **Structure**. Anything built for the support, shelter or enclosure of persons, animals, goods or property of any kind, together with anything constructed or erected with a fixed location on or in the ground. Examples of structures include buildings, utility lines and roads.

(10) **Non-native wetland plants**. Wetland grasses, forbs, shrubs, or trees not native to the State of Maine, for example, common reed (*Phragmites communis*) and purple loosestrife (*Lythrum salicaria*).

NOTES:

(1) Section 480-Q(15-A) of the NRPA exempts the installation, removal or repair of a septic system from permitting requirements as of March 1, 1995, as long as the system complies with all requirements of the subsurface wastewater disposal rules adopted by the Department of Human Services under 22 M.R.S.A. Section 42, subsection 3.

(2) Section 480-Q(2) of the NRPA exempts from permitting the maintenance and minor repair of structures in, on, over or adjacent to a protected natural resource and maintenance and minor repair of private crossings of a river, stream or brook provided:

(a) Erosion control measures are taken to prevent sedimentation of the water;

(b) The crossing does not block fish passage in the water course;

(c) There is not additional intrusion into the protected natural resources; and

(d) The dimensions of the repaired structure do not exceed the dimensions of the structure as it existed 24 months prior to the repair.

Section 480-Q(2) does not apply to the repair of more than 50% of a structure located in a coastal sand dune system; the repair of more than 50% of a dam, unless that repair has been approved by a representative of the United States Natural Resources Conservation Service; or the repair of

more than 50% of any other structure, unless the municipality in which the proposed activity is located requires a permit for the activity through an ordinance adopted pursuant to the mandatory shoreland zoning laws and the application for a permit is approved by the municipality.

(3) Section 480-Q(2-B) of the NRPA exempts from permitting the replacement of a floating dock with another floating dock if the dimensions of the replacement dock do not exceed those of the dock being replaced and the configuration of the replacement dock is the same as the dock being replaced.

(4) Section 480-Q(9) of the NRPA exempts from permitting emergency repair or normal maintenance and repair of existing public works which affect any protected natural resource. An activity which is exempt under this subsection shall employ erosion control measures to prevent sedimentation of any surface water, shall not block fish passage in any water course and shall not result in any additional intrusion of the public works into the protected natural resource. This exemption does to apply to any activity on an outstanding river segment as listed in section 480-P.

5. *[REPEALED]*

6. Movement of rocks or vegetation

A. Applicability

(1) This section applies to the limited movement of rocks or hand removal of vegetation from below the normal high water line of a great pond or river, stream or brook in order to provide access for swimming or navigation.

(2) This section does not apply to an activity that is not or will not be in compliance with the terms and conditions of permits issued under the Site Location of Development Law, 38 M.R.S.A. Sections 481 to 490, the Storm Water Management Law, 38 M.R.S.A. Section 420-D, the Natural Resources Protection Act, 38 M.R.S.A. Sections 480-A to 480-Z.

(3) This section does not apply to an activity that will not conform to the local shoreland zoning ordinance.

NOTE: Contact the local Code Enforcement Officer for information on local shoreland zoning requirements.

B. Submissions

(1) The applicant is required to submit photographs of the area which will be affected by the activity proposed.

(2) Photographs showing the completed project and the affected area must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

C. Standards

(1) The width of the area to be cleared may not exceed 10 feet, as measured parallel to the shore. Only one area may be cleared per lot with shore frontage or area under common ownership with shore frontage.

(2) If the area has been cleared in the past, subsequent clearing must be limited to the same area.

(3) Rocks moved from the cleared area must remain in the water and must be distributed randomly in such a way that a structure such as a jetty or boat ramp will not be formed. Rocks may not be removed from the water.

(4) Wheeled or tracked equipment may not be operated in the water. For large rock movement, equipment operating on the shore may reach into the water with a bucket or similar extension provided no bottom sediments are removed or displaced. Areas that are disturbed as part of equipment access and operation must be restored to their original grade and vegetation or as near thereto as practicable.

(5) Rocks that are holding the shoreline may not be moved.

(6) Cut or uprooted vegetation must be removed from the water.

(7) Work must be done during periods of low water level or flow.

7. Outfall pipes

A. Applicability

(1) This section applies to the installation and maintenance of a permanent outfall pipe, an outlet from a ditch or drain tile for storm water, ground water or other discharges licensed by the DEP in or on land adjacent to a coastal wetland, freshwater wetland, great pond, river, stream or brook.

NOTES:

(1) A wastewater discharge license from the DEP is required for any discharge from an the outlet other than stormwater from residential development; small commercial or industrial facilities; or uncontaminated groundwater.

(2) A permit will be required from the US Army Corps of Engineers for the following types of projects:

(a) Any activity involving open trench excavation in a waterbody or wetland;

(b) Any activity in coastal waterways;

(c) Any activity within a river, stream or brook between October 2 and July 14; or

(d) Any activity involving work in waterways designated as Essential Fish Habitat for Atlantic salmon including all aquatic habitats in the watersheds of the following rivers and streams, including all tributaries to the extent that they are currently or were

historically accessible for salmon migration: St. Croix, Boyden, Dennys, Hobart Stream, Aroostook, East Machias, Machias, Pleasant, Narraguagus, Tunk Stream, Patten Stream, Orland, Penobscot, Passagassawaukeag, Union, Ducktrap, Sheepscot, Kennebec, Androscoggin, Presumpscot, and Saco River.

A copy of the PBR notification and original photographs, not photocopies, should be submitted to the Corps of Engineers for these activities (US Army Corps of Engineers, 675 Western Avenue, Suite #3, Manchester, ME 04351. Tel. (207) 623-8367).

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(2) This section does not apply to an activity that is not or will not be in compliance with the terms and conditions of permits issued under the Site Location of Development Law, 38 M.R.S.A. Sections 481 to 490, the Storm Water Management Law, 38 M.R.S.A. Section 420-D, or the Natural Resources Protection Act, 38 M.R.S.A. Sections 480-A to 480-Z.

(3) This section does not apply to an activity that will not conform to the local shoreland zoning ordinance.

NOTE: Contact the local Code Enforcement Officer for information on local shoreland zoning requirements.

B. Submissions

(1) For an activity occurring in tidal waters, notice of approval of the timing of the activity from the Department of Marine Resources must be submitted to the DEP with the notification form.

(2) The applicant is required to submit photographs of the area which will be affected by the activity proposed.

(3) Photographs showing the completed project and the affected area must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

C. Standards

(1) The following measures must be taken to prevent erosion of soil or fill material from the disturbed areas into the resource:

(a) Staked hay bales or silt fence must be properly installed between the area of soil disturbance and the edge of the resource before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

NOTE: For guidance on erosion and sedimentation control consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

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(2) Stormwater outfalls, whether a pipe or trench, must utilize velocity reducing structures and/or rock aprons to prevent erosion. A vegetative filter strip of at least 25 feet long must be established and maintained between the outfall structure and the resource unless a different standard is required pursuant to the Site Location of Development Law, 38 M.R.S.A. Sections 481 to 490, or the Storm Water Management Law, 38 M.R.S.A. Section 420-D. The DEP may approve a reduction in width of the vegetated buffer if:

(a) The applicant demonstrates in writing that the full buffer width is not practicable;

(b) Any recommendations from the DEP are incorporated into the activity; and

(c) Approval of the reduction is from the DEP in writing.

(3) Foundation drains and licensed discharges may extend to, and outfall in, the resource. If necessary, a rock apron must be constructed to prevent erosion.

(4) Disturbance of wetland vegetation must be avoided if possible. If wetland vegetation must be disturbed during the activity, it must be reestablished immediately upon completion of the activity and must be maintained.

(5) Non-native wetland plants may not be planted in disturbed areas.

(6) The trench width in any protected natural resource must be no wider than necessary to install the device.

(7) The trench in and adjacent to the protected natural resource must be refilled with the material that was excavated. The original grading and elevation of the wetland must be restored. Residual fill material must be removed from the wetland or water body and properly stabilized. Pipe bedding material such as crushed stone or sand may be used provided clay dams or synthetic boots are used where appropriate to prevent wetland draining through the bedding material.

(8) Blasting in inundated areas is prohibited.

(9) The outfall structure may not interfere with any potential boat usage of the project site.

(10) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom.

(11) All wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms in order to protect wetland vegetation.

(12) Work below the high water line of a great pond, river, stream or brook must be done at low water except as required for emergency flood control work. Measures, such as a silt boom or staked fencing, must be employed to reduce and isolate turbidity.

(13) Maintenance clearing of deposited debris and sediments from the outfall area is allowed provided the cleared materials are removed from the resource. Any debris generated during the activity must be prevented from washing downstream and must be removed from the wetland or water body. Disposal of debris must be in conformance with Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Section 1301 *et seq.*

(14) Uncured concrete may not be placed directly into the water. Concrete must be pre-cast and cured at least three weeks before placing in the water, or where necessary, must be placed in forms and cured at least one week before the forms are removed. No washing of tools, forms, etc. may occur in or adjacent to the waterbody or wetland.

(15) If work is performed in a river, stream or brook that is less than three feet deep at the time of the activity and at the location of the activity, the applicant must provide for temporary diversion of flow to the opposite side of the channel while work is in progress.

(a) Diversion may be accomplished by placing sandbags, timbers, sheet steel, concrete blocks, 6+ mil polyethylene or geotextiles from the bank to midstream on the upstream side of the activity. No more than two-thirds (2/3) or 25 feet of stream width, whichever is less, may be diverted at one time.

(b) Any material used to divert water flow must be completely removed upon completion of the activity, and the stream substrate must be restored to its original condition.

(c) A pump may be operated, where necessary, for a temporary diversion. The pump outlet must be located and operated such that erosion or the discharge of sediment to the water is prevented.

(16) If the activity occurs within tidal waters, the activity must occur during the time period approved by the Department of Marine Resources.

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

(1) **Diversion**. A rerouting of a river, stream or brook to a location outside of its established channel.

(2) **Dredge**. To move or remove, by digging, scooping, or suctioning any sand, silt, mud, gravel, rock, or other material from the bottom of a water body or wetland surface.

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

(4) **Land adjacent to a protected natural resource**. Any land area within 75 feet, measured horizontally, of the normal high water line of a great pond, river, stream or brook or the upland edge of a coastal wetland or freshwater wetland.

(5) **Non-native wetland plants**. Wetland grasses, forbs, shrubs, or trees not native to the State of Maine, for example, common reed (*Phragmites communis*) and purple loosestrife (*Lythrum salicaria*).

8. Shoreline stabilization

A. Applicability

(1) This section applies to the establishment of vegetation adjacent to any protected natural resource and the installation of riprap along the shoreline of a great pond, freshwater wetland with over 20,000 square feet of open water, stream or brook.

(2) This section applies only to areas where erosion exists and vegetation is not present, as demonstrated by photographs submitted with the notification form.

(3) This section does not apply to riprap on any river as defined by 38 M.R.S.A. Section 436-A(11), the Mandatory Shoreland Zoning Act (information is available at the Town Office).

(4) This section does not apply to a riprap project that affects more than 100 feet of shoreline.

(5) This section does not apply to areas within any portion of a coastal sand dune system even if portions of these systems extend into the coastal wetland.

(6) This section does not apply to an activity that will not conform to the local shoreland zoning ordinance.

NOTES:

(1) Contact the local Code Enforcement Officer for information on local shoreland zoning requirements.

(2) A permit will be required from the US Army Corps of Engineers for riprap projects that include fill below the ordinary high water line of fresh waters or below the spring high tide line of tidal waters.

A copy of the PBR notification form and original photographs, not photocopies, should be submitted to the Corps of Engineers for these activities (US Army Corps of Engineers, 675 Western Avenue, Suite #3, Manchester, ME 04351. Tel. (207) 623-8367).

B. Submissions

(1) The applicant is required to submit photographs of the entire shoreline area where this activity is proposed.

(2) Photographs showing the finished activity must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled

with the applicant's name and the town in which the activity took place.

(3) A scaled drawing, including a cross section, of the proposed riprap installation. The drawing must clearly depict the extent of riprap proposed to be installed, such as the length along shore and height above the normal high water line.

It is not necessary to have the plan professionally prepared. However, it must be legible and drawn to a scale that provides a clear representation of distances and measurements on the plan.

(4) Professional design plans for riprap on streams and brooks when required pursuant to paragraph C(12) of this section.

C. Standards

(1) Riprap may be utilized only where eroded slopes exceed 3 horizontal feet to 1 vertical foot (approximately 33% slope), or where riprap is used to stabilize an existing stormwater outfall. Where eroded slopes are shallower than 3 horizontal to 1 vertical, vegetation must be used to control erosion.

(2) Riprap installed on the shoreline of a great pond or open water wetland may not extend higher than 2 feet above the normal high water line. Riprap installed on a river, stream or brook may not extend higher than 2 feet above the normal high water line, or to the elevation of the 100-year flood where mapped by the Federal Emergency Management Agency, whichever is higher.

(3) The following measures must be taken to prevent erosion of soil or fill material from disturbed areas into the resource:

(a) Staked hay bales or silt fence must be properly installed between the area of soil disturbance and the resource before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

NOTE: For guidance on erosion and sedimentation controls, consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

(4) New soil may be brought to the site and soil amendments, such as fertilizer or lime, may be used to increase soil fertility provided:

(a) Slopes do not exceed 3 horizontal to 1 vertical;

(b) Existing vegetation is not permanently removed;

(c) Water bars or diversions are used to divert stormwater runoff away from the loam;

(d) Depth of new soil is less than 2 inches;

(e) The amendment is worked into the underlying soils;

(f) Disturbed areas are immediately mulched and seeded; and

(g) Final vegetation consists of native trees and shrubs, or matches existing vegetation immediately adjacent to the treated area.

(5) Rocks used for riprap may not be obtained from the shoreline (because they help prevent erosion) or below the normal high water line (because they provide habitat for aquatic life).

NOTE: On many slopes, slumping is caused by wave or water motion undercutting the bank. If riprap is placed only at the bottom of the slope, and the upper portions of the bank are graded and revegetated, the cost of the shoreline stabilization project can be reduced.

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(6) The slope of the riprap may not be steeper than 1 horizontal to 1 vertical, nor shallower than 3 horizontal to 1 vertical.

(7) Riprap must be anchored at the base of the existing bank by placing the bottom row of rock in a trench excavated at least to a depth equal to the height of the largest rock, or the riprap must be pinned to underlying ledge.

(8) A layer of filter fabric and crushed stone must be placed under the riprap to prevent the washing of soil particles into the water.

(9) No fill material other than the riprap and crushed stone may be placed below the normal high water line.

(10) Riprap may not be placed in front of a retaining wall such that it extends further into the water.

(11) A buffer strip of undisturbed vegetation at least 25 feet wide must be established and maintained along the upland edge of any riprap placed for the protection of agricultural land.

(12) Design of riprap on stream or brook banks must be approved by either a Maine Registered Professional Engineer, the United States Natural Resources Conservation Service, or the local Soil and Water Conservation District. Evidence of this approval or plans stamped by a professional engineer must be submitted along with the Notification Form. With prior written agreement, the DEP may waive this standard for minor riprap activities on small streams.

(13) When riprap is necessary along a river, stream or brook, it must be combined with tree and shrub plantings to provide bank stabilization, shading of the water and cover for wildlife.

(14) If work is performed in a river, stream or brook that is less than three feet deep at the time of the activity and at the location of the activity, the applicant must provide for temporary diversion of flow to the opposite side of the channel while work is in progress.

(a) Diversion may be accomplished by placing sandbags, timbers, sheet steel, concrete blocks, 6+ mil polyethylene or geotextiles from the bank to midstream on the upstream side of the activity. No more than two-thirds (2/3) or 25 feet of stream width, whichever is less, may be diverted at one time.

(b) Any material used to divert water flow must be completely removed upon completion of the activity, and the stream substrate must be restored to its original condition.

(c) A pump may be operated, where necessary, for a temporary diversion. The pump outlet shall be located and operated such that erosion or the discharge of sediment to the water is prevented.

(15) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom.

(16) Work below the high water line of a great pond, river, stream or brook must be done at low water except as required for emergency flood control work.

(17) All excavated material must be stockpiled either outside the protected natural resource or on mats or platforms. Hay bales or silt fence must be used, where necessary, to prevent sedimentation. All excavated material must be removed to a location more than 75 feet from the protected natural resource, unless otherwise approved by the DEP, and properly stabilized with vegetation upon project completion.

(18) Disturbance of vegetation must be avoided if possible. If vegetation must be disturbed during the activity, similar types and amounts of vegetation must be re-established immediately upon completion of the activity and must be maintained.

(19) Non-native species may not be planted in disturbed areas.

(20)Riprap projects must be constructed in accordance with the plans or drawings submitted pursuant to subsections B(3) and (4) of this section, as applicable.

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

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

(2) **Riprap.** Heavy, irregularly-shaped rocks that are fit into place, without mortar, on a slope. Square or rectangular rocks with flat faces, such as quarry stone or manufactured blocks, do not qualify as “irregularly-shaped”.

(3) **Structure**. Anything built for the support, shelter or enclosure of persons, animals, goods or property of any kind, together with anything constructed or erected with a fixed location on or in the ground. Examples of structures include buildings, utility lines and roads.

9. Crossings (utility lines, pipes and cables)

A. Applicability

(1) This section applies to the installation, maintenance and replacement of an overhead utility line across a river, stream or brook excluding outstanding river segments identified in 38 M.R.S.A. Section 480-P.

(2) This section applies to the installation, maintenance and replacement of a submerged utility line across a coastal wetland, freshwater wetland, great pond, river, stream, or brook excluding outstanding river segments identified in 38 M.R.S.A. Section 480-P.

(3) This section applies to the installation, maintenance and replacement of an overhead utility line across or adjacent to a coastal wetland, freshwater wetland or great pond provided the line is within the right-of-way of, or adjacent to the path of, an existing traveled way.

(4) This section does not apply to a submerged utility crossing that is part of a larger project involving multiple crossings of a natural resource or more than one natural resource. Projects consisting of multiple natural resource crossings must obtain an individual permit under the Natural Resources Protection Act.

(5) This section does not apply to an activity that is not or will not be in compliance with the terms and conditions of permits issued under the Site Location of Development Law, 38 M.R.S.A. Sections 481 to 490, the Storm Water Management Law, 38 M.R.S.A. Section 420-D, or the Natural Resources Protection Act, 38 M.R.S.A. Sections 480-A to 480-Z.

(6) This section does not apply to an activity that will not conform to the local shoreland zoning ordinance.

NOTES:

(1) Contact the local Code Enforcement Officer for information on local shoreland zoning requirements.

(2) In a great pond, the placement of water lines to serve a single-family house or the installation of cables for utilities, such as telephone and power cables, is exempt from NRPA permit requirements under 38 M.R.S.A. Section 480-Q (1) provided that the:

(a) Excavated trench for access to the water is backfilled and riprapped to prevent erosion;

(b) Excavated trench on the landward side of the riprapped area is seeded and mulched to prevent erosion; and

(c) Bureau of Parks and Lands has approved the placement of the cable across the bottom of the great pond to the extent that it has jurisdiction.

(3) Approval for crossing any state-owned (submerged) land must be obtained from the Department of Conservation, Bureau of Parks and Lands, State House Station 22, Augusta, ME 04333.

(4) A permit will be required from the US Army Corps of Engineers for the following types of projects:

(a) Any activity involving open trench excavation in a waterbody or where the impact (direct and indirect) to wetlands exceeds 4,300 square feet;

(b) Any activity in coastal waterways;

(c) Any activity within a river, stream or brook between October 2 and July 14 ;or

(d) Any activity involving work in waterways designated as Essential Fish Habitat for Atlantic salmon including all aquatic habitats in the watersheds of the following rivers and streams, including all tributaries to the extent that they are currently or were historically accessible for salmon migration: St. Croix, Boyden, Dennys, Hobart Stream, Aroostook, East Machias, Machias, Pleasant, Narraguagus, Tunk Stream, Patten Stream, Orland, Penobscot, Passagassawaukeag, Union, Ducktrap, Sheepscot, Kennebec, Androscoggin, Presumpscot, and Saco River.

A copy of the PBR notification and original photographs, not photocopies, should be submitted to the Corps of Engineers for these activities (US Army Corps of Engineers, 675 Western Avenue, Suite #3, Manchester, ME 04351. Tel. (207) 623-8367).

B. Submissions

(1) The applicant is required to submit photographs of the area which will be affected by the activity proposed.

(2) Photographs showing the completed project and the affected area must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

(3) For any work involving trenching or disturbance of substrate in a coastal wetland, great pond, river, stream or brook that occurs between October 2 and July 14, notice of approval of the timing of the activity from the Department of Inland Fisheries and Wildlife, the Atlantic Salmon Authority and the Department of Marine Resources must be submitted to the DEP with the notification form, unless otherwise approved by the DEP based upon the location of the project. In addition, for a utility crossing of marine or estuarine waters at any time of year, notice of approval of the timing from the Department of Marine Resources must be submitted to the DEP with the notification form.

C. Standards

(1) The following measures must be taken to prevent erosion of soil or fill material from disturbed areas into the resource:

(a) Staked hay bales or silt fence must be properly installed between the area of soil disturbance and the resource before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

NOTE: For guidance on erosion and sedimentation controls, consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

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(2) Disturbance of wetland vegetation must be avoided if possible. If wetland vegetation must be disturbed during the activity, it must be reestablished immediately upon completion of the activity and must be maintained.

(3) Non-native wetland plants may not be planted in disturbed areas.

(4) If the activity occurs in a coastal wetland, great pond, river, stream or brook between October 2 and July 14, the activity must occur during the time period approved by the Department of Inland Fisheries and Wildlife, the Atlantic Salmon Authority and the Department of Marine Resources.

(5) The trench in and adjacent to the wetland must be refilled with the material that was excavated. The original grading and elevation of the wetland must be restored. Residual fill material must be removed from the wetland or water body and properly stabilized. Pipe bedding material such as crushed stone or sand may be used provided clay dams or synthetic boots are used where appropriate to prevent wetland draining through the bedding material.

(6) Any trench excavation that occurs within a river, stream or brook must be performed either during a period when no water is flowing, or utilize a dry crossing method such as diverting water flow by coffer dam and pumping around the area of excavation. The trench width in any natural resource must be no wider than necessary to install the device.

(7) The crossing may not obstruct any recreational usage of the water body.

(8) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom.

(9) All wheeled or tracked equipment that must travel or work in a vegetated wetland must travel and work on mats or platforms in order to protect wetland vegetation.

(10) Any debris or excavated material must be stockpiled either outside the wetland or on mats or platforms. Hay bales or silt fence must be used, where necessary, to prevent sedimentation.

(11) Any debris generated during the activity must be prevented from washing downstream and must be removed from the wetland or water body. Disposal of debris must be in conformance with Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Section 1301 *et seq.*

(12) Temporary roads constructed of fill are not allowed in the resource except that fill may be used on top of mats or platforms for equipment access.

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

(14) Blasting in inundated areas is prohibited.

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

(1) **Crossing**. Any activity extending from one side to the opposite side of a protected natural resource, or to an island or upland within a protected natural resource whether under, through or over that resource. Such activities include, but are not limited to roads, fords, bridges, culverts, utility lines, water lines, sewer lines and cables, and the clearing and removal of vegetation necessary to install and maintain these crossings.

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

(3) **Land adjacent to a protected natural resource**. Any land area within 75 feet, measured horizontally, of the normal high water line of a great pond, river, stream or brook or the upland edge of a coastal wetland or freshwater wetland.

(4) **Riprap.** Heavy, irregularly-shaped rocks that are fit into place, without mortar, on a slope. Square or rectangular rocks with flat faces, such as quarry stone or manufactured blocks, do not qualify as “irregularly-shaped”.

(5) **Structure**. Anything built for the support, shelter or enclosure of persons, animals, goods or property of any kind, together with anything constructed or erected with a fixed location on or in the ground. Examples of structures include buildings, utility lines and roads.

(6) **Utility lines, pipes and cables**. Wires and pipes providing utility services. The term includes telephone and electric wires, gas, oil, water and sewer pipelines, and their support structures, whether public or private.

(7) **Non-native wetland plants**. Wetland grasses, forbs, shrubs, or trees not native to the State of Maine, for example, common reed (*Phragmites communis*) and purple loosestrife (*Lythrum salicaria*).

10. Stream crossings (bridges, culverts and fords)

A. Applicability

(1) This section applies to the construction of a bridge span or culvert crossing of a river, stream or brook, and associated accessway construction within 25 feet of the river, stream or brook crossing excluding the following:

(a) Crossings of outstanding river segments identified in 38 M.R.S.A. Section 480-P;

(b) Crossings of any river as defined by 38 M.R.S.A. Section 436-A(11), the Mandatory Shoreland Zoning Act (information is available at the Town Office); or

(c) Crossings of any portion of a river, stream or brook that experiences tidal action.

NOTE: Temporary structures do not require a permit from the department under the Natural Resources Protection Act (NRPA) provided no filling and minimal soil disturbance occurs. All crossings involving filling in and adjacent to a river, stream or brook, such as culvert crossings, are subject to the NRPA and must first receive a permit before construction.

(2) This section also applies to the establishment of a permanent stream ford for purposes of timber harvesting, livestock, agriculture and construction and maintenance of a utility line.

(3) A stream crossing constructed between July 15 and October 1 that is associated with forest management activities is exempt from the 14 day waiting period required in Section 1(C)(1).

(4) A stream crossing constructed between July 15 and October 1 that is performed or supervised by individuals currently certified in erosion control practices by the DEP is exempt from the 14 day waiting period required in Section 1(C)(1).

(5) Multiple stream crossings may be submitted on one PBR notification form as long as all of the crossing activities are located within one town.

(6) This section does not apply to an activity that is not or will not be in compliance with the terms and conditions of permits issued under the Site Location of Development Law, 38 M.R.S.A. Sections 481 to 490, the Storm Water Management Law, 38 M.R.S.A. Section 420-D, or the Natural Resources Protection Act, 38 M.R.S.A. Sections 480-A to 480-Z.

(7) This section does not apply to an activity that will not conform to the local shoreland zoning ordinance.

NOTES:

(1) Contact the local Code Enforcement Officer for information on local shoreland zoning requirements.

(2) Maintenance and repair of a public or private crossing of a river, stream or brook is exempt from the NRPA provided that:

(a) Erosion control measures are taken to prevent sedimentation of the water;

(b) The crossing does not block fish passage in the water course; and

(c) Any replaced culvert is not more than 25% longer than the culvert being replaced and is not longer than 75 feet.

(3) A permit will be required from the US Army Corps of Engineers for the following types of projects:

(a) Any activity involving impacts (direct and secondary) to freshwater wetlands; or

(b) An activity within a river, stream or brook between October 2 and July 14.

A copy of the PBR notification form and original photographs, not photocopies, should be submitted to the Corps of Engineers for these activities (US Army Corps of Engineers, 675 Western Avenue, Suite #3, Manchester, ME 04351. Tel. (207) 623-8367).

B. Submissions

(1) For any crossing involving trenching or disturbance of substrate in a river, stream or brook that occurs between October 2 and July 14, the proposed dates for construction of the crossing must be clearly identified on the notification form under “Description of Project”.

(2) Except for crossings associated with forest management activities, the applicant is required to submit photographs of the area that will be affected by the activity proposed.

(3) Photographs showing the completed project and the affected area must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

C. Standards

(1) The following measures must be taken to prevent erosion of soil or fill material from disturbed areas into the resource:

(a) Staked hay bales or silt fence must be properly installed between the area of soil disturbance and the resource before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

NOTE: For guidance on erosion and sedimentation controls, consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

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(2) If a perennial watercourse to be crossed is used for navigation, the crossing must consist of a bridge span or pipe arch with at least 4 feet of clearance during normal high water for boat traffic.

(3) If the stream to be crossed is a perennial watercourse and has a slope of more than 2%, a bridge or a pipe arch must be used to maintain the natural streambed.

(4) Fill sideslopes in a stream or floodplain wetland must be maintained at a slope no shallower than 3 horizontal to 1 vertical and no steeper than 1.5 horizontal to 1 vertical. Fill sideslopes must be stabilized at the completion of the activity.

NOTE: Uncompacted soils or sandy soils that are saturated at the toe of a slope will be unstable at a 1.5 to 1 slope.

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(5) A bridge or culvert must provide an opening with a cross-sectional area at least equal to 3 times the cross-sectional area of the stream channel or sufficient in size to accommodate 25-year frequency water flows.

NOTE: Stream crossings allowable under this section but located in flood hazard areas (i.e. A zones) as identified on a community's Flood Insurance Rate Maps (FIRM) or Flood Hazard Boundary Maps (FHBM) must be designed and constructed under the stricter standards contained in that community's National Flood Insurance Program (NFIP). For example, a crossing may be required to pass a 100-year flood event.

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(6) Road surfaces must be constructed in a manner to prevent erosion of material into the river, stream or brook.

(7) Surface water on or adjacent to crossing approaches must be diverted through vegetative filter areas at least 25 feet long to avoid sedimentation of the watercourse. Roadside ditches may not extend to the resource being crossed.

NOTE: Surface water on or adjacent to crossing approaches should be diverted through vegetative filter areas to avoid sedimentation of the watercourse. Because roadside ditches may not extend to the resource being crossed, filter areas should be established in accordance with the following tables:

Average slope of land between exposed mineral soil and normal high water mark (percent)	Width of strip between ditch terminus and normal high water mark (feet along surface of the ground)
0	25
10	45
20	65
30	85
40	105
50	125
60	145
70	165

(8) A stream ford must be lined with crushed stone, blasted ledge, washed stone, gabion blankets or geotextile material for erosion control when the natural stream bed does not consist of ledge or rock.

(9) A stream ford must allow for fish passage at all times of the year and may not impound water. The fords must also allow for maintenance of normal stream flows.

(10) Culvert crossings must:

(a) Be limited to 75 feet in length. This limit may not be exceeded within a half-mile length of the stream or within the length of stream controlled by the applicant, if less;

(b) Follow the alignment and grade of the existing stream channel where possible. On perennial streams the culvert's gradient may not exceed 1%;

(c) Have the bottom of the entire culvert installed at or below stream bed elevation, except for additional culverts at the same crossing;

(d) Where two or more culverts are installed, be offset in order to concentrate low flows into the culvert within the natural channel;

(e) Be seated on firm ground, or on geotextiles, logs or other materials used to stabilize the ground;

(f) Be covered by soil to a minimum depth of 1 foot or according to the culvert manufacturer's specifications, whichever is greater;

(g) Have the soil compacted at least halfway up the side of the culvert; and

(h) Have the inlet and outlet ends stabilized by riprap in accordance with Section 8 Shoreline stabilization standards to avoid erosion of material around the culvert.

NOTE: For guidance on riprap installation, consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

(11) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may, where necessary, reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom.

(12) Work below the normal high water line must be done during periods of low water level or flow.

(13) If the crossing involves trenching or disturbance of substrate in a river, stream or brook between October 2 and July 14, the activity must occur during the time period approved by the DEP. The approved time period may be the time period proposed by the applicant or an alternative time period approved by the DEP. An alternative time period will be required where it appears an unreasonable impact on water quality or fisheries may result at the point of crossing or immediately downstream of the crossing. The applicant will be notified by the DEP within 14 days if an alternative time period, other than the one proposed by the applicant, is required for constructing the crossing.

(14) If work is performed in a river, stream or brook that is less than three feet deep at the time of the activity and at the location of the activity, the applicant must provide for temporary diversion of flow to the opposite side of the channel while work is in progress.

(a) Diversion may be accomplished by placing sandbags, timbers, sheet steel, concrete blocks, 6+ mil polyethylene or geotextiles from the bank to midstream on the upstream side of the activity. No more than two-thirds (2/3) or 25 feet of stream width, whichever is less, may be diverted at one time.

(b) Any material used to divert water flow must be completely removed upon completion of the activity, and the stream substrate must be restored to its original condition.

(c) A pump may be operated, where necessary, for a temporary diversion. The pump outlet must be located and operated such that erosion or the discharge of sediment to the water is prevented.

(15) All wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms in order to protect wetland vegetation.

(16) All excavated material must be stockpiled either outside the wetland or on mats or platforms. Hay bales or silt fence must be used, where necessary, to prevent sedimentation.

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

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

(1) **Cross-sectional area**. The cross-sectional area of a stream channel is determined by multiplying the stream channel width by the average stream channel depth. The stream channel width is the straight line distance from the normal high water line on one side of the channel to the normal high water line on the opposite side of the channel. The average stream channel depth is the average of the vertical distances from a straight line between the normal high water marks of the stream channel to the bottom of the channel.

(2) **Crossing**. Any activity extending from one side to the opposite side of a protected natural resource, or to an island or upland within a protected natural resource whether under, through or over that resource. Such activities include, but are not limited to roads, fords, bridges, culverts, utility lines, water lines, sewer lines and cables, and the clearing and removal of vegetation necessary to install and maintain these crossings.

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

(4) **Ford**. A permanent crossing of a stream utilizing an area of existing, non-erodible substrate of the stream, such as ledge or cobble, or by placing non-erodible material such as stone or geotextile on the stream bottom.

(5) **Perennial watercourse**. A river, stream or brook depicted as a solid line on the most recent edition of a United States Geological Survey 7.5 minute series topographic map, or if not available, a 15 minute series topographic map.

(6) **Riprap.** Heavy, irregularly-shaped rocks that are fit into place, without mortar, on a slope. Square or rectangular rocks with flat faces, such as quarry stone or manufactured blocks, do not qualify as “irregularly-shaped”.

(7) **Used for navigation**. Those rivers, streams or brooks used by motorized watercraft.

11. State transportation facilities

A. Applicability

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

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

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

B. Standards

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

12. Restoration of natural areas

A. Applicability

(1) This section applies to the restoration of an altered portion of a coastal wetland, freshwater wetland, great pond, river, stream or brook to its pre-existing natural condition through the removal of fill, structures or debris which is located in, on over, or adjacent to the natural resource.

(2) This section applies to the removal of non-native species and the planting of natural vegetation in any protected resource.

(3) This section applies to the retrieval of sand from below the normal high water line for redistribution on an existing adjacent sand beach on a great pond.

(4) This section applies to the restoration of the natural grade within a dredged area of a freshwater or coastal wetland.

(5) This section does not apply to:

(a) Restoration or replacement of a structure or unnatural condition such as the installation of a dam structure;

(b) Conversion of existing natural wetlands to wetland of a different type through flooding, inundation or other means;

(c) Dredging of silt, sand or soil materials which have been naturally deposited from a great pond, river, stream or brook, coastal wetland or freshwater wetland except that eroded sand may be retrieved from a great pond for redistribution on an existing adjacent sand beach;

(d) Mining of gravel or other mineral materials from a river, stream, or brook;

(e) Replacement of eroded soil material in areas above, below and adjacent to the normal high water mark of a great pond, river, stream or brook, freshwater wetland, or coastal wetland, except that sand may be regraded on an existing sand beach;

(f) Removal of a man-made dam structure;

(g) Draining of a freshwater wetland to convert an area to upland; or

(h) An activity occurring within a coastal sand dune system.

(6) This section does not apply to an activity that is not or will not be in compliance with the terms and conditions of permits issued under the Site Location of Development Law, 38°M.R.S.A. Sections 481 to 490, the Storm Water Management Law, 38 M.R.S.A. Section 420-D, or the Natural Resources Protection Act, 38 M.R.S.A. Sections 480-A to 480-Z.

(7) This section does not apply to an activity that will not conform to the local shoreland zoning ordinance.

NOTE:

(1) Contact the local Code Enforcement Officer for information on local shoreland zoning requirements.

(2) A permit will be required from the US Army Corps of Engineers for the following types of projects:

(a) Any activity involving impacts (direct and secondary) to freshwater wetlands;

(b) Any activity within a coastal wetland;

(c) Any activity within an open water area;

(d) Any activity within a river, stream or brook between October 2 and July 14; or

(e) Any activity involving work in waterways designated as Essential Fish Habitat for Atlantic salmon including all aquatic habitats in the watersheds of the following rivers and streams, including all tributaries to the extent that they are currently or were historically accessible for salmon migration: St. Croix, Boyden, Dennys, Hobart Stream, Aroostook, East Machias, Machias, Pleasant, Narraguagus, Tunk Stream, Patten Stream, Orland, Penobscot, Passagassawaukeag, Union, Ducktrap, Sheepscot, Kennebec, Androscoggin, Presumpscot, and Saco River.

A copy of the PBR notification form and original photographs, not photocopies, should be submitted to the Corps of Engineers for these activities (US Army Corps of Engineers, 675 Western Avenue, Suite #3, Manchester, ME 04351. Tel. (207) 623-8367).

B. Submissions

(1) The applicant is required to submit photographs of the area in which this activity is proposed.

(2) Photographs showing the finished activity must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

(3) For an activity occurring in tidal waters, notice of approval of timing from the Department of Marine Resources must be submitted to the DEP with the notification form.

C. Standards

(1) The following measures must be taken to prevent erosion of soil or fill material from disturbed areas into the proposed resource:

(a) Staked hay bales or silt fence must be properly installed between the area of soil disturbance and the resource before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

NOTE: For guidance on erosion and sedimentation controls, consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

(2) Disturbance of wetland vegetation must be avoided if possible. If wetland vegetation must be disturbed during the activity, it must be reestablished immediately upon completion of the activity and must be maintained.

(3) Non-native wetland plants may not be planted in disturbed areas.

(4) Only material that has been placed in a natural resource by persons may be removed from these waterbodies except for debris deposited within the previous 12 calendar months, and sand that will be regraded onto existing adjacent sand beaches.

(5) Sand may be regraded from below the normal high water line, but machinery may not operate in the water. Equipment operating on shore may reach into the water with a bucket or similar extension. Areas covered by vegetation, either aquatic or terrestrial, may not be disturbed during any beach regrading.

(6) Any activity involving the regrading of an existing sand beach must include the installation of permanent erosion control devices, such as water bars and diversion ditches, that prevent future erosion of the sand from upland runoff. The erosion control devices must be installed prior to the regrading of the beach.

(7) Vegetation and soil material used in restoring wetland areas must be similar to the vegetation and soil materials occurring under pre-existing natural conditions.

(8) No fill other than soil material used to restore natural elevations within a dredged area of a coastal or freshwater wetland may be placed in or adjacent to a natural resource. Sand may not be brought in from off-site to replenish an existing beach.

NOTE: Erosion of sand from beaches may be due to wave action or the action of overland water flows. Contact the DEP, the local Soil and Water Conservation District, or the local lake association for assistance with identifying sources of beach erosion.

(9) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom.

(10) All wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms in order to protect wetland vegetation.

(11) All excavated material must be stockpiled either outside the wetland or on mats or platforms. Hay bales, silt fence or mulch must be used, where necessary, to prevent sedimentation.

(12) If the activity occurs within tidal waters, the activity must occur during the time period approved by the Department of Marine Resources.

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

(1) **Dam**. Any man-made artificial barrier, including appurtenant works, the site on which it is located and appurtenant rights of flowage and access, that impounds or diverts a river, stream or brook or great pond.

(2) **Dredge**. To move or remove, by digging, scooping, or suctioning any sand, silt, mud, gravel, rock, or other material from the bottom of a water body or wetland surface.

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

(4) **Debris**. Non-mineral materials (including but not limited to wood, brush or flotsam) deposited by wind, wave action, flooding or wild animals within the last 12 months. This term includes beaver dams, but does not include beaver or muskrat houses or nests of wild birds such as wading birds or waterfowl.

(5) **Restoration**. An activity returning a great pond, coastal wetland, freshwater wetland, river, stream or brook from a disturbed or altered condition with lesser acreage or fewer functions to a previous condition with greater acreage or functions.

(6) **Structure**. Anything built for the support, shelter or enclosure of persons, animals, goods or property of any kind, together with anything constructed or erected with a fixed location on or in the ground. Examples of structures include buildings, utility lines and roads.

(7) **Non-native wetland plants**. Wetland grasses, forbs, shrubs, or trees not native to the State of Maine, for example, common reed (*Phragmites communis*) and purple loosestrife (*Lythrum salicaria*).

13. Habitat creation or enhancement and water quality improvement activities

A. Applicability

(1) This section applies to an alteration in or adjacent to a protected natural resource by a public natural resource agency. This rule also applies to an alteration in the same types of resources by a public utility, the Department of Transportation, owner of a federally licensed hydropower project, a conservation group, or a municipality in conjunction with and under the supervision of a public natural resource agency, exclusively for the purpose of:

(a) Creating or enhancing habitat for fisheries or wildlife; or

(b) A water quality improvement project.

These activities may include but are not limited to: fishway installation; the construction of artificial reefs; removal, maintenance, installation or modification of dam structures; and the construction and maintenance of nutrient retention structures.

(2) This section applies to a landfill closure activity approved by the DEP.

(3) This section does not apply to an activity that will not conform to the local shoreland zoning ordinance.

NOTES:

(1) Contact the local Code Enforcement Officer for information on local shoreland zoning requirements.

(2) A permit will be required from the US Army Corps of Engineers for the following types of projects:

(a) Any activity involving impacts (direct and secondary) to freshwater wetlands;

(b) Any activity within a coastal wetland;

(c) Any activity within an open water area;

(d) Any activity within a river, stream or brook between October 2 and July 14; or

(e) Any activity involving work in waterways designated as Essential Fish Habitat for Atlantic salmon including all aquatic habitats in the watersheds of the following rivers and streams, including all tributaries to the extent that they are currently or were historically accessible for salmon migration: St. Croix, Boyden, Dennys, Hobart Stream, Aroostook, East Machias, Machias, Pleasant, Narraguagus, Tunk Stream, Patten Stream, Orland, Penobscot, Passagassawaukeag, Union, Ducktrap, Sheepscot, Kennebec, Androscoggin, Presumpscot, and Saco River.

A copy of the PBR notification form and original photographs, not photocopies, should be submitted to the Corps of Engineers for these activities (US Army Corps of Engineers, 675 Western Avenue, Suite #3, Manchester, ME 04351. Tel. (207) 623-8367).

B. Submissions

(1) The applicant is required to submit photographs of the area in which this activity is proposed.

(2) Photographs showing the finished activity must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

(3) Excluding landfill closures, if an activity is to be performed by a public utility, conservation group, municipality or the Maine Department of Transportation, certification from a public natural resource agency that the proposed activity will be done in conjunction with, or under the supervision of, the agency must be submitted with the notification form.

C. Standards

(1) The following measures must be taken to prevent erosion of soil or fill material from disturbed areas into the resource:

(a) Staked hay bales or silt fence must be properly installed between the area of soil disturbance and the resource before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

NOTE: For guidance on erosion and sedimentation controls, consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

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(2) Disturbance of vegetation must be avoided if possible. Where vegetation is disturbed outside of the area covered by any structures or filling associated with this activity, it must be reestablished immediately upon completion of the activity and must be maintained.

(3) Non-native wetland plants may not be planted in disturbed wetland areas.

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

(5) Uncured concrete may not be placed directly into the water. Concrete must be pre-cast and cured at least three weeks before placing in the water, or where necessary, must be placed in forms and cured at least one week before the forms are removed. No washing of tools, forms, etc. may occur in or adjacent to the waterbody or wetland.

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

(7) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom.

(8) Work below the high water line of a great pond, river, stream or brook shall be done at low water, except as required for emergency flood control work. Measures, such as a silt boom or staked fencing, must be employed to reduce and isolate turbidity.

(9) All wheeled or tracked equipment that must travel or work in a vegetated coastal wetland must travel and work on mats or platforms in order to protect wetland vegetation.

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

(1) **Dam**. Any man made artificial barrier, including appurtenant works, the site on which it is located and appurtenant rights of flowage and access, that impounds or diverts a river, stream or brook or great pond.

(2) **Public natural resources agency**. The Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, the Maine DEP, the Maine Department of Conservation, the United States Fish and Wildlife Service, the United States Natural Resources Conservation Service, the United States Environmental Protection Agency, the United States Army Corps of Engineers, the United States Forest Service, National Marine Fisheries Service, National Park Service, National Oceanic and Atmospheric Administration, and County Soil and Water Conservation Districts.

(3) **Water quality improvement project**. An activity designed exclusively to maintain or enhance water quality of a freshwater wetland, great pond or river, stream, brook or a coastal wetland. Examples include but are not limited to: nutrient retention basins, water level manipulation and rerouting of drainage ways.

(4) **Non-native wetland plants**. Wetland grasses, forbs, shrubs, or trees not native to the State of Maine, for example, common reed (Phragmites communis) and purple loosestrife (*Lythrum salicaria*).

14. Piers, wharves, pilings and haulouts *[repealed]*

15. Public boat ramps

A. Applicability

(1) This section applies to the construction of a new, or the replacement of an existing, public boat ramp or carry-in launch area, including associated parking and accessways, in or adjacent to a protected natural resource by a public natural resource agency, Maine Department of Transportation, municipality, or owners of a federally licensed hydropower project within the resource affected by the hydropower project. This section does not apply if a portion of the ramp or related facilities is located in, on or over emergent marsh vegetation or intertidal mudflat.

(2) This section applies to the construction of up to 2 launch lanes at a facility provided no more than 2 lanes exist or will exist at the completion of the activity.

(3) This section does not apply to a new boat ramp on a lake infested with aquatic invasive plants, as defined in 38 M.R.S.A. Section 410-N. The Department of Environmental Protection identifies and maintains a list of these infested lakes.

NOTE: A permit will be required from the US Army Corps of Engineers for the following types of projects:

(a) Any activity involving open trench excavation in a waterbody;

(b) Any activity in coastal waterways;

(c) Any activity within a river, stream or brook between October 2 and July 14; or

(d) Any activity involving work in waterways designated as Essential Fish Habitat for Atlantic salmon including all aquatic habitats in the watersheds of the following rivers and streams, including all tributaries to the extent that they are currently or were historically accessible for salmon migration: St. Croix, Boyden, Dennys, Hobart Stream, Aroostook, East Machias, Machias, Pleasant, Narraguagus, Tunk Stream, Patten Stream, Orland, Penobscot, Passagassawaukeag, Union, Ducktrap, Sheepscot, Kennebec, Androscoggin, Presumpscot, and Saco River.

A copy of the permit by rule notification form and original photographs, not photocopies, should be submitted to the Corps of Engineers for these activities (US Army Corps of Engineers, 675 Western Avenue, Suite #3, Manchester, ME 04351. Tel. (207) 623-8367).

B. Submissions

(1) The applicant is required to submit photographs of the area in which this activity is proposed.

(2) Photographs showing the finished activity must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

(3) If the project results in a new or expanded access drive or parking area, the project design plan, erosion control plan and a request for review for an activity on great ponds classified as GPA under 38 M.R.S.A. Section 465-A must be submitted to the DEP's Division of Watershed Management (DWM) prior to submitting the notification form to the DEP. A certification from DWM must be obtained and must be included with the notification form, along with final project plans and the erosion control plan, when it is submitted to the DEP.

(4) If the proposed activity involves work below the mean low water line of a waterbody, the applicant shall submit a copy of the project design plan along with a copy of the notification form to the Department of Conservation, Bureau of Parks and Lands, Submerged Lands Program (State House Station #22 Augusta, Maine 04333) at the time the notification form is submitted to the DEP. Work on the activity may not begin until a lease or easement is obtained or the Bureau of Parks and Lands has provided notification that one is not necessary.

NOTE: Processing of a request for a lease or easement may require several weeks of review by the Bureau of Public Lands.

(5) If the proposed activity is located within a coastal wetland area, the applicant shall submit, along with the notification form, a letter from both the Department of Inland Fisheries and Wildlife and the Department of Marine Resources that describes times of the year in which the construction of the boat ramp may occur.

(6) If the proposed activity is located within a freshwater wetland, great pond, river, stream or brook, the applicant shall submit, along with the notification form, a letter from the Department of Inland Fisheries and Wildlife that describes times of the year in which the construction of the boat ramp may occur.

C. Standards

(1) The erosion control plan must be followed. Erosion of soil or fill material from disturbed areas into the resource must be prevented. The following measures must be taken:

(a) Staked hay bales or silt fence must be properly installed between the area of soil disturbance and the resource before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

NOTE: For guidance on erosion and sedimentation controls, consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

(2) A hard-surfaced launch must be used where boats will be launched from trailers, and must meet the following specifications:

(a) The underwater portions of the ramp, at the time of construction, must be constructed of reinforced precast concrete planks, panels or slabs;

(b) The portion of the ramp used by the towing vehicle may not have a slope that exceeds 15%; the portion of the ramp used by the trailer only may not have a slope that exceeds 20%;

(c) The width of the hard surfaced launch lane(s) may not exceed 20 feet as measured parallel to shore;

(d) The upper most 6 inches of the base must consist of crushed rock or crushed or screened gravel having 5% or less passing a 200 mesh sieve; and

(e) Fill slopes at or below the normal high water line must be protected with riprap. Riprap installation must meet the standards for riprap in PBR Section 8, "Shoreline stabilization".

(3) An additional area of up to 8 feet wide as measured parallel to shore may be constructed using bituminous pavement, precast concrete planks, panels or slabs to support docking systems.

(4) A carry-in launch area for small boats must:

(a) Consist of gravel, rock, sand, vegetation, or other erosion resistant materials;

(b) Have a grade not exceeding 18%; and

(c) Be Limited, below the low water line, to constructing a path up to 6 feet wide, measured parallel to shore, consisting of cobble, rock or concrete planks, to access deeper water to float watercraft.

(5) A vegetated buffer zone at least 25 feet in width must be maintained between any new or expanded parking area and the waterbody.

(6) A parking area or access road may not be located in a protected natural resource, except that an access roadway may cross a stream if the requirements of PBR Section 10 "Stream crossings" are met.

(7) Any new or expanded parking area or roadway must divert stormwater runoff away from the ramp to an area where it may infiltrate into the ground before reaching the waterbody.

(8) Machinery may operate below the water line only when necessary to excavate or place material below the existing water level and must travel and operate on temporary mats or portions of the ramp that have been constructed.

(9) Timing of the activity must conform to the recommendations of biologists from the Department of Inland Fisheries and Wildlife or the Department of Marine Resources, as appropriate, as described in letters submitted along with the notification form.

(10) Any debris generated during the work must be prevented from washing downstream and must be removed from the wetland or water body. Disposal of debris must be in conformance with Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A Section 1301 *et seq.*

(11) Uncured concrete may not be placed directly into the water. Concrete must be pre-cast and cured at least three weeks before placing in the water or, where necessary, must be placed in forms and cured at least one week before the forms are removed. No washing of tools, forms, etc. may occur in or adjacent to the waterbody or wetland.

(12) The use of untreated lumber is preferred. Lumber pressure-treated with chromated copper arsenate (CCA) may be used only if necessary and only if use is allowed under federal law and not prohibited from sale under 38 M.R.S.A. 1682, and provided it is cured on dry land in such a manner as to expose all surfaces to the air for a period of at least 21 days prior to

construction. Wood treated with creosote or pentachlorophenol shall not be used where it will contact water.

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

(1) **Emergent marsh vegetation**. Plants that are erect, rooted and herbaceous, and that may be temporarily to permanently flooded at the base, but do not tolerate prolonged inundation of the entire plant; (e.g. cattails, saltmarsh cordgrass).

(2) **Public natural resource agency**. The Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, the Maine DEP, the Maine Department of Conservation, the United States Fish and Wildlife Service, the United States Forest Service, the United States Natural Resources Conservation Service and County Soil and Water Conservation Districts.

(3) **Project design plan**. A detailed plan of the proposed activity indicating all dimensions (width, height, length) relative to the mean low water mark, and including any appurtenant structures that may be seasonal in nature.

16. Activities in coastal sand dunes

A. Applicability

(1) This section applies to the following activities in coastal sand dune systems:

(a) Repair or replacement of an existing seawall, patio, deck, driveway, walkway, porch or parking area;

(b) Dune restoration or construction;

(c) Installation or repair of underground utility lines;

(d) Construction of a new structure or new development, other than a building or closed fence, in a back dune area;

(e) New buildings or an addition to an existing building in a back dune when mitigation and enhancement measures are not required as determined by the DEP;

(f) Construction of closed fences in a back dune, non-erosion hazard area;

(g) Construction of open fences in a frontal dune or back dune erosion hazard area;

(h) Construction of cobble-trapping fences with permanent anchors landward of an existing seawall in a developed area;

(i) Construction of a walkway or driveway on existing developed area in a frontal dune; and

(j) Installation of underground propane tanks.

PBR applications are reviewed on a case by case basis to determine the concern for damage due to shoreline change. In an area where concern for damage due to shoreline change is identified or mitigation and enhancement measures are required, the applicant is required to file for an individual Natural Resources Protection Act Permit, and is encouraged to contact the DEP for a pre-application meeting.

(2) This section does not apply to the construction of a new structure or addition to an existing structure in V-Zones.

(3) This section does not apply to an activity that will not conform to the local shoreland zoning ordinance.

NOTE: Contact the local Code Enforcement Officer for information on local shoreland zoning requirements.

B. Submissions

(1) The applicant is required to submit photographs of the area in which the activity is proposed.

(2) Photographs showing the finished activity must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

(3) The following information must be submitted with the notification form.

(a) A site plan that includes the following information.

(i) The dimensions and square footage of the lot.

(ii) The dimensions (including height) and square footage of existing and proposed structures and development e.g. houses, sheds, garages, decks, patios, driveways, parking areas, walkways, lawn, fences, etc. and their location on the lot (see definitions of Building, Footprint and Development in Section 16(D)). The existing and the proposed structures must be clearly distinguished.

(iii) The location of property lines and names of abutters.

(iv) The location of buildings on adjacent properties.

For patios, decks, driveways, walkways, porches, and parking areas that are to be repaired or replaced, the site plan must include the length and width of the existing structure, the height of the existing structure if it is elevated and the thickness of the existing structure;

For new buildings or an addition to an existing building in a back dune erosion hazard area, the site plan must include a post foundation designed to meet the requirements of the Department's *Coastal Sand Dune Rules*, 06-096 CMR 355(6)(G);

(b) A copy of the most recent Coastal Sand Dune Geology Map, produced by the Maine Geological Survey, which contains the project site and has the project site clearly identified on the photo;

NOTE: Maps are available for review at the town offices of most coastal communities and at DEP regional offices. The maps are also available for purchase from the Maine Geological Survey, 22 State House Station, Augusta, ME 04333

(c) For seawall repair or replacement only, an accurate plan drawn to scale by a licensed surveyor, coastal geologist or professional engineer showing the location of the existing and proposed wall and the elevation of the wall(s) referenced to a nearby permanent and reproducible elevation point, such as a described point on a building or other structure. The plan must be signed and dated by the person responsible for preparing the drawing;

(d) If moving sand in an area seaward of the frontal dune between April 1 and September 1, a copy of the written approval to proceed from the Department of Inland Fisheries and Wildlife; and

(e) For open or cobble-trapping fences, a detail showing a typical section of the fence and the dimensions of the fence including the size of the openings.

C. Standards

(1) No more than 40% of the lot may be covered by development including, but not limited to, buildings, driveways, walkways, parking areas, lawn or landscaped area, and land area previously developed; nor may the total area to be covered by the footprint of buildings exceed 20% of the lot, including existing buildings. Land area within the V-zone may not be included as part of a lot for the purposes of this section.

(2) Where development that is existing or did exist within one year of application exceeds 40% of the total lot area, the percentage of developed area may not be increased.

(3) Where the footprint of buildings that are existing or did exist within one year of application exceeds 20% of the total lot area, the percentage of area covered by buildings may not be increased.

(4) An activity occurring on land adjacent to a coastal wetland, freshwater wetland containing over 20,000 square feet of open water or emergent marsh vegetation, great pond, river, stream or brook must meet the erosion control and setback requirements of Section 2, "Activities adjacent to protected natural resources".

(5) Building or building additions may not result in a total structure greater than 35 feet in height or have a footprint greater than 2500 square feet. For purposes of determining whether the building is 35 feet high, the starting point for measuring the bottom elevation of the building is described in Chapter 355(5)(D). The top of the building is considered to be the highest point of the building excluding ancillary features such as weathervanes or chimneys that are attached to the building's primary roof but including features such as decks or observations towers that extend higher than the building's primary roof.

NOTE: The Department recommends that projects be constructed according to the Coastal Construction Manual published by the Federal Emergency Management Agency, which describes the best practices for residential construction in coastal areas.

(6) A building may not be constructed so that any part of the building extends seaward of a line drawn between the seaward most point of buildings on adjacent properties if the construction would significantly obstruct the view from an adjacent building.

(7) During project construction, disturbance of dune vegetation must be avoided and native vegetation must be retained on the lot to the maximum extent possible. Any areas of dune vegetation that are disturbed must be restored as quickly as possible. Dune vegetation includes American beach grass, rugosa rose, bayberry, beach pea, beach heather and pitch pine.

(8) No fill may be placed on the project site other than that required for an approved dune restoration project or new construction. Foundation backfill and sand dune restoration and construction must utilize sand that has textural and color characteristics consistent with the natural sand’s textural and color characteristics.

(9) No sand may be moved seaward of the frontal dune between April 1 and September 1, unless written approval from the Department of Inland Fisheries and Wildlife has been obtained.

(10) An activity involving dune restoration or dune construction must be performed between March 1 and April 1 or October 1 and November 15. Dune grass must be planted immediately after construction. Dune grass must be planted with 3 culms per hole. The holes must be spaced 18 inches apart. The planted dune grass must be protected from pedestrian traffic until the dune grass is well established. The density of the growing stand of dune grass must be at least 40 plants per 100 square feet.

(11) A dune restoration/construction activity must use sand that has textural and color characteristics consistent with the natural sand's textural and color characteristics.

(12) A dune restoration or dune construction activity must minimize damage to existing dune vegetation and must follow the configuration and alignment of adjacent dunes as closely as possible. No sand or other materials may be placed below the normal high tide line.

(13) The replacement of a seawall may not increase the height, length or thickness dimensions of a seawall beyond that which legally existed within 24 months of submission of the notification form. The replaced seawall may not be significantly different in construction from the one that previously existed.

(14) A private walkway must be 4 feet or less in width. A public walkway must be 10 feet or less in width. Walkways must allow for sand movement and may not have a significant impact on vegetation outside of the footprint of the walkway. No portion of the walkway may be located in the V-Zone.

(15) The repair or replacement of a patio, deck, driveway, walkway, porch or parking area may not increase the height, length, width or thickness dimensions of the existing structure. The new or repaired patio, deck, driveway, walkway, porch or parking area may be constructed of a different material provided the dimensions remain the same.

(16) All proposed construction and development activity is limited to the location and extent depicted on the plan or drawing submitted pursuant to subsection B(3) of this section.

(17) An open fence must have openings that allow for the easy movement of water, wind and sand. If a picket board fence is proposed, the opening must be at least 4 inches wide or at least double the width of the picket board, whichever is greater. A continuous footing may not be used to support the fence and support posts may not be larger than 4 inches by 4 inches.

(18) A cobble-trapping fence may only be placed on properties that are adjacent to beaches with gravel and cobble sediment and have developed areas such as lawn between the building and the beach. Such a fence may not be placed on a naturally vegetated frontal dune ridge.

(19) A cobble-trapping fence must be placed landward of an existing seawall in a developed area, must not extend more than two feet beyond the building's foundation on either side, must not consist of more than one row of fencing, must not have openings smaller than 2 inches square or in diameter, and must not be higher than 4 feet above grade, The fence may be supported by permanent, small subsurface pipes or similar emplacements that are left in place all year. A permanent, continuous footing may not be used to support the fence. Cobbles and sediment trapped by the fence may be removed and placed immediately seaward of a frontal dune or seawall on the property.

(20) Underground propane tanks must be placed under an existing structure on the parcel.

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

(1) **Back dunes**. Back dunes consist of sand dunes and eolian sand flats that lie landward of the frontal dune or a low energy beach. Back dunes include those areas containing artificial fill over back dune sands or over wetlands adjacent to the coastal sand dune system.

(2) **Beach**. The zone of unconsolidated sand or gravel that extends landward from the mean low water line to the seaward toe of a dune. The definition of beach includes the beach face and berm.

(3) **Beach nourishment**. *(Deleted)*

(4) **Berm**. The flat or gently sloping area between the high tide limit and frontal dune. A berm is formed by deposition of sand transported to shore by tides, waves, wind and currents.

(5) **Building.** A structure designed for habitation, shelter, storage, or as a gathering place that has a roof. For the purposes of this rule, the foundation is considered to be a part of the building. A porch with a roof, attached to the exterior walls of a building, is considered part of the building.

(6) **C-zone**. *(Deleted)*

(7) **Closed fence**. A fence that effectively blocks the movement of wind, water, or sand, such as a stockade fence or snow fence.

(8) **Cobble**. A rock that is smaller than a boulder and larger than gravel.

(9) **Cobble-trapping fence**. An open fence with a continuous porosity equal to or greater than 50% that is designed to prevent cobbles from passing through it .

(10) **Development**. The alteration of property for human-related use including, but not limited to, buildings, decks, driveways, parking areas, lawns, landscaped areas, and areas of non-native vegetation, and any other appurtenant facilities, but excluding temporary structures.

(11) **Dune vegetation**. Dune plant species typically adapted to Maine's coastal sand dune systems including, but not limited to, American beach grass, rugosa rose, bayberry, beach pea, beach heather and pitch pine.

(12) **Erosion hazard area**

(a) Any portion of the coastal sand dune system that can reasonably be expected to become part of a coastal wetland in the next 100 years due to cumulative and collective changes in the shoreline from:

(i) Historical long-term erosion;

(ii) Short-term erosion resulting from a 100-year storm; or

(iii) Flooding in a 100-year storm after a two-foot rise in sea level; or

(b) Any portion of the coastal sand dune system that is mapped as an AO flood zone by the effective FEMA Flood Insurance Rate Map, which is presumed to be located in an Erosion Hazard Area unless the applicant demonstrates based on site-specific information, as determined by the DEP, that a coastal wetland will not result from either (i), (ii), or (iii) occurring on an applicant's lot given the expectation that an AO-Zone, particularly if located immediately behind a frontal dune, is likely to become a V-Zone after 2 feet of sea level rise in 100 years.

(13) **Footprint**. The outline that would be created on the ground by extending the exterior walls of the building to the ground surface.

(14) **Foundation**. The portion of a structure that transmits the loads of the structure to the ground, including but not limited to: spread footings, foundation walls, posts, piers, piles, beams, girders, structural slabs, bracings, and associated connectors.

(15) **Frontal dune**. The frontal dune is the area consisting of the most seaward ridge of sand and gravel and includes former frontal dune areas modified by development. Where the dune has been altered from a natural condition, the dune position may be inferred from the present beach profile, dune positions along the shore, and regional trends in dune width. The frontal dune may or may not be vegetated with dune vegetation and may consist in part or in whole

of artificial fill. In areas where smaller ridges of sand are forming in front of an established dune ridge, the frontal dune may include more than one ridge.

(16) **Land adjacent to a protected natural resource**. Any land area within 75 feet, measured horizontally, of the normal high water line of a great pond, river, stream or brook or the upland edge of a coastal wetland or freshwater wetland.

(17) **Lot**. Also referred to as a lot of record, all contiguous areas under a single present ownership as indicated by a deed and recorded in the registry of deeds constituting a piece of land measured and marked by metes and bounds descriptions or by some other approved surveying technique.

(18) **Open fence**. A fence through which water, wind and sand can easily move, for example, a split rail fence.

(19) **Permanent structure** (also referred to as a "structure" in this section). Any structure constructed or erected with a fixed location or attached to a structure with a fixed location for a period exceeding 7 months each year. Permanent structures include, but are not limited to: causeways, piers, docks, concrete slabs, piles, marinas, retaining walls, buildings, swimming pools, fences, seawalls, roads, driveways, parking areas, and walkways. Natural features, such as frontal dunes, are not considered permanent structures. For the purposes of this section, open decks and storage sheds that comply with the criteria outlined below are not considered to be structures.

(a) Open decks that: do not exceed a total of 200 square feet, including any existing decks on the property, are not located in a V-Zone, are supported by posts, and are elevated at least 3 feet above existing grade to allow unobstructed flow of sand, wind and water. One set of outside stairs, attached to the deck, will be considered part of the open deck but not included when determining the 200 square foot area.

(b) One storage shed per lot that does not exceed 100 square feet, provided that it is not located in a V-Zone and that it is not converted to a habitable structure.

(20) **Posts**. Any pilings or column supports that allow water and sand to move freely underneath the structure, and that are adequate to provide a foundation for the structure they supports. The term "post" does not include frost walls or breakaway foundation construction.

(21) **Seawall**. Vertical wall, or other sloped barrier that separates land from water areas, commonly constructed out of rocks, wood, concrete or other similar materials, generally built for the purpose of protecting structures or property from shoreline erosion caused by wave or current action. A seawall is presumed to be a permanent structure.

(22) **V-Zone**. That land area of special flood hazard subject to a one- percent or greater chance of flooding in any given year, and subject to additional hazard from high velocity water due to wave action. Wave heights or wave run-up depths are equal to or greater than 3 feet in V-Zones. V-Zones are as identified on the effective Flood Insurance Rate Maps and any subsequent Letters of Map Changes issued by FEMA.

17. Transfers and permit extensions

A. Applicability

(1) This section allows an individual permit, general permit or tier review approval issued under the Natural Resources Protection Act to be transferred from the permittee to the applicant when the permitted project changes ownership.

(2) This section allows an individual permit, general permit or tier review approval issued under the Natural Resources Protection Act to be extended one time provided the approved activity has not begun and the permit has not expired. This section does not apply to an extension request for a permit previously extended under this chapter.

B. Submissions

(1) For a transfer, the applicant must submit an affidavit attesting to the fact that he or she has received, read, understand and will comply with the terms of the DEP Order(s) and conditions of approval for the activity.

(2) For a transfer, the applicant must submit a copy of the order(s) to be transferred as well as a copy of documents establishing proof of ownership of the property on which the activity is located or sufficient title, right or interest to complete the activity in accordance with the requirements of the permit and the NRPA.

(3) For a transfer, the original permittee must submit a statement attesting that he or she agrees to the transfer of his or her permit to the applicant.

(4) For a transfer of a project that requires compensation, the applicant must submit documentation that demonstrates sufficient expertise and financial resources to complete the approved compensation work, including subsequent monitoring and corrective actions.

(5) For permit extensions, a copy of the order(s) to be extended shall be submitted to the Department along with a written reason for the extension request.

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

(1) **Affidavit**. A written declaration made under oath before a notary public.

(2) **Extension**. A DEP approval to extend an unexpired permit. An extension is valid for 2 years.

18. Maintenance dredging permit renewal

A. Applicability

(1) This section applies to the renewal of an individual permit issued by the DEP for maintenance dredging in a coastal wetland, great pond and river, stream or brook provided that:

(a) The area to be dredged is located in an area that was dredged within the last ten years;

(b) The permit to be renewed was an individual Natural Resources Protection Act permit. If the most recent dredge was permitted under a PBR, this section does not apply;

(c) The area to be dredged is not located in or within 250 feet of an area identified as significant wildlife habitat by the Department of Inland Fisheries and Wildlife;

NOTE: Contact the nearest regional office of the Maine Department of Inland Fisheries and Wildlife for more information

(d) Less than 50,000 cubic yards will be dredged.

(2) This section does not apply to the renewal of a permit issued by the DEP for gravel mining in any protected natural resource.

NOTE:

(1) Displacement or bulldozing of sediment within a lobster pound does not require a Natural Resources Protection Act permit provided that the sediment is not removed from the area inundated as a result of the impoundment, 38 M.R.S.A. Section 480-Q(19).

(2) Any activity involving dredging may require a permit from the US Army Corps of Engineers. A copy of the PBR notification should be submitted to the Corps of Engineers for these activities (US Army Corps of Engineers, RR 2 Box 1855, Manchester, ME 04351).

B. Submissions

(1) A copy of the permit issued for the most recent maintenance dredging must be submitted to the DEP with the notification form.

(2) For a dredge activity in tidal waters, notice of approval of the timing of the activity from the Department of Marine Resources must be submitted to the DEP with the notification form.

C. Standards

(1) The dimensions of the area proposed to be dredged may not exceed previously approved dimensions and dredging must be conducted in the same location.

(2) All conditions previously attached to the original permit are incorporated into the permit by rule unless otherwise stated by the DEP in writing.

(3) For a dredge activity in tidal waters, the activity must occur during the time period approved by the Department of Marine Resources.

(4) Any debris or dredged material generated during the activity may not be disposed of in any protected natural resource unless otherwise allowed in this chapter and the disposal conforms with the Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Sections 1301 *et seq.*

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

(1) **Dredge**. To move or remove, by digging scooping or suctioning any sand, silt, mud, gravel, rock, or other material from the bottom of a water body or wetland surface.

(2) **Dredge spoils**. Sand, silt, mud, gravel rock or other sediment or material that is moved from coastal wetlands, great ponds or rivers, streams or brooks.

19. Activities in, on or over significant vernal pool habitat

A. Applicability

(1) This section applies to activities in, on, or over a significant vernal pool habitat or a potential significant vernal pool habitat. Significant vernal pool habitat consists of a vernal pool depression and the portion of the critical terrestrial habitat within a 250 foot radius of the spring or fall high water mark of the depression.

NOTE: The 250 feet of critical terrestrial habitat protected as significant vernal pool habitat is only a portion of the habitat used by adult wood frogs, ambystomatid salamanders, and threatened and endangered species. Tracking studies of adult pool-breeding amphibians have shown that they can travel over a third-mile away from their breeding pool, and that a radius of 750 feet around the pool is optimal for protecting viable amphibian populations. The DEP encourages efforts to protect more habitat adjacent to a vernal pool than this regulation has authority over.

(2) This section does not apply to an activity that is not or will not be in compliance with the terms and conditions of a permit issued under the Site Location of Development Law, 38 M.R.S.A. Sections 481 to 490, the Stormwater Management Law, 38 M.R.S.A. Section 420-D, or the Natural Resources Protection Act, 38 M.R.S.A. Section 480-A to BB.

NOTE: For additional regulatory provisions applicable to significant vernal pools, see 06-096 CMR 335, Significant Wildlife Habitat.

B. Submissions. The following items must be submitted with the notification, unless otherwise provided below.

(1) Photographs of the area that will be affected by the activity proposed.

(2) Photographs showing the completed project and the affected area must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

(3) A scaled plan or drawing of the area affected, including but not limited to the following information:

(a) The entire property on which the activity will take place, including property lines, the vernal pool depression and remaining surrounding significant vernal pool habitat within

250 feet of the spring or fall high water mark of the depression, and the boundaries and location of other protected natural resources such as streams and other wetlands;

(b) Proposed activity and existing development on which the activity will take place, including buildings, parking areas, roads, fill areas, landscaped areas, etc.; and

(c) Any site constraints limiting development beyond the significant vernal pool habitat, such as steep slopes.

It is not necessary to have the plan formally prepared. However, it must be legible and drawn to a scale that allows a clear representation of distances and measurements on the plan.

C. Standards. The following measures must be taken during construction and maintenance of the activity.

(1) No disturbance within the vernal pool depression.

(2) Except for activities in existing developed areas, maintain a minimum of 75% of the critical terrestrial habitat as unfragmented forest with at least a partly-closed canopy of overstory trees to provide shade, deep litter and woody debris.

(3) Maintain or restore forest corridors connecting wetlands and significant vernal pools.

(4) Minimize forest floor disturbance.

(5) Maintain native understory vegetation and downed woody debris.

In determining whether the standard in Section 19(C)(2) has been met, the DEP considers only that portion of the critical terrestrial habitat within the significant vernal pool habitat, which is the area within a 250 foot radius of the spring or fall high water mark of the vernal pool depression.

(6) Take the following measures to prevent erosion of soil or fill material from disturbed areas:

(a) Staked hay bales or silt fence must be properly installed at the edge of disturbed areas between the activity and the vernal pool depression before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

NOTE: For guidance on erosion and sedimentation controls, consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

(7) An activity of a type that would qualify for a permit by rule under one of the other sections of this chapter listed below, notwithstanding any restriction concerning significant wildlife habitat that may be in that section, must also meet the requirements of that section.

Sec. 4. Replacement of structures
Sec. 9. Crossings (utility lines, pipes, cables)
Sec. 10. Stream crossings (bridges, culverts, fords)
Sec. 11. State transportation facilities
Sec. 12. Restoration of natural areas.
Sec. 13. Habitat creation or enhancement and water quality improvement activities
Sec. 15. Public boat ramps
Sec. 16. Coastal sand dune projects

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

(1) **Critical terrestrial habitat**. Uplands and wetlands associated with significant vernal pools used by pool breeding amphibians for migration, feeding, and hibernation, in particular, forested wetlands and forested uplands that provide deep organic litter, coarse woody debris and canopy shade.

(2) **Existing developed area**. The area of property altered including, but not limited to, buildings, driveways, parking areas, wastewater disposal systems, lawns and other landscaped areas, as of September 1, 2007.

(3) **Significant vernal pool habitat**. A vernal pool depression and the portion of the critical terrestrial habitat within a 250 foot radius of the spring or fall high water mark of the depression. For complete criteria, see Chapter 335(9), Significant vernal pools.

(4) **Vernal pool depression**. This area includes the vernal pool depression up to the spring or fall high water mark, and includes any vegetation growing within the depression.

20. Activities located in, on or over high or moderate value inland waterfowl and wading bird habitat, or shorebird nesting, feeding, and staging areas

A. Applicability

(1) This section applies to activities in existing developed areas located in, on, or over high or moderate value inland waterfowl and wading bird habitat, or shorebird nesting, feeding, and staging areas.

(2) This section applies to an expansion of up to 10% of an existing development area within a high or moderate value inland waterfowl and wading bird habitat, or a shorebird feeding area, if an individual permit is not otherwise required for activity on the parcel.

(3) This section applies to activities consisting of cutting or removal of vegetation within high or moderate value inland waterfowl and wading bird habitat, or shorebird feeding or roosting buffer.

(4) This section applies to new activities, such as the construction of buildings, roads, and driveways, in an upland area on a lot in moderate value inland waterfowl and wading bird habitat and that contains no Development area.

NOTE: If exterior lighting is anticipated to extend into the habitat within the 150 foot setback, the Department may request a detailed lighting plan.

(5) This section does not apply to an activity that is not or will not be in compliance with the terms and conditions of a permit issued under the *Site Location of Development Law*, 38 M.R.S.A. §§ 481–490, the *Stormwater Management Law*, 38 M.R.S.A. §420-D, or the *Natural Resources Protection Act*, 38 M.R.S.A. §§ 480-A–480-FF.

(6) This section does not apply to an activity that does not conform to the local shoreland zoning ordinance.

NOTE: For additional regulatory provisions applicable to significant wildlife habitats, see *Significant Wildlife Habitat*, 06-096 CMR 335 (last amended June 8, 2006).

B. Submissions. The following items must be submitted with the notification, unless otherwise provided below.

(1) Photographs of the area that will be affected by the activity proposed.

(2) Photographs showing the completed project and the affected area must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

(3) A scaled plan or drawing of the area affected, including information such as the following.

(a) The entire property on which the activity will take place, including property lines, and the boundaries and location of protected natural resources such as streams, and wetlands, as well as significant wildlife habitat (specify type of significant wildlife habitat).

(b) Proposed activity and existing development on which the activity will take place, including buildings, parking areas, roads, fill areas, landscaped areas, etc. If up to a 10% expansion of an existing developed area is proposed within a high or moderate value inland waterfowl and wading bird habitat, or a shorebird feeding area, indicate the existing developed area and proposed expansion.

It is not necessary to have the plan formally prepared. However, it must be legible and drawn to a scale that allows a clear and accurate representation of distances and measurements on the plan.

(4) For cutting or removal of vegetation in a shorebird roosting buffer, notice of approval of the activity from the Department of Inland Fisheries and Wildlife (IF&W) must be submitted to the DEP with the notification form. The IF&W approval may specify the location of the activity or other conditions of approval.

(5) For any work in, on or over a shorebird nesting, feeding, and staging area that would occur between July 15 and September 15, notice of approval of the timing of the activity from the Department of Inland Fisheries and Wildlife must be submitted to the DEP with the notification form.

(6) For new activities in a moderate value inland waterfowl and wading bird habitat that take place between April 15 and July 31 of any year, notice of approval of the timing of the activity from the Department of Inland Fisheries and Wildlife must be submitted to the DEP with the notification form.

C. Standards

(1) For activities in, on or over a shorebird nesting, feeding, and staging area between July 15 and September 15, the activity must occur during the time period approved by the Department of Inland Fisheries and Wildlife.

(2) The following measures must be taken to prevent erosion of soil or fill material from disturbed areas into the resource:

(a) Staked hay bales or silt fence must be properly installed at the edge of disturbed areas between the activity and the undeveloped area before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

NOTE: For guidance on erosion and sedimentation controls, consult the Maine Erosion and Sediment Control BMPs, dated March 2003. This handbook and other references are available from the DEP.

(3) An activity of a type that would qualify for a permit by rule under one of the sections listed below must also meet the requirements of that section.

Sec. 3. Intake pipes
Sec. 4. Replacement of structures
Sec. 6. Movement of rocks or vegetation
Sec. 7. Outfall pipes
Sec. 8. Shoreline stabilization
Sec. 9. Crossings (utility lines, pipes, cables)

Sec. 10. Stream crossing (bridges, culverts, fords)
Sec. 11. State transportation facilities
Sec. 12. Restoration of natural areas
Sec. 13. Habitat creation or enhancement and water quality improvement activities
Sec. 15. Public boat ramps
Sec. 16. Coastal sand dune projects
Sec. 18. Maintenance dredging renewal permit

(4) Except for cutting or removal of vegetation allowed pursuant to paragraph C(6) of this section, cutting or removal of vegetation within a high or moderate value inland waterfowl and wading bird habitat, or shorebird roosting buffer, is limited to:

(a) Removal of a safety hazard; or

(b) Cutting or removal of vegetation to allow for a footpath not to exceed 6 feet in width as measured between tree trunks and shrub stems. The footpath may not result in a cleared line of sight to the water.

Any cutting or removal of vegetation within a shorebird roosting buffer under this paragraph must be done in consultation with and as approved by the Department of Inland Fisheries and Wildlife.

(5) Cutting or removal of vegetation within a shorebird feeding buffer must meet the vegetative screening standards set forth in *Mandatory Shoreland Zoning*, 38 M.R.S.A. §439-A(6). In interpreting and enforcing these standards, the department shall rely upon the department's shoreland zoning rules regarding cutting or removal of vegetation for activities other than timber harvesting[1] and apply the cutting standards applicable within 75 feet of a coastal wetland to the entire 100-foot feeding buffer.

(6) New activities in an upland area on a lot in a moderate value inland waterfowl and wading bird habitat and that contains no Development area must meet the following standards:

(a) New structures must be located a minimum of 150 feet landward of the upland edge or forested wetland edge of the inland wetland complex within the waterfowl and wading bird habitat;

(b) Beyond 150 feet from the upland edge or forested wetland edge of the inland wetland complex within the waterfowl and wading bird habitat, no more than 20 % of the applicant's land within the habitat may be cleared or developed;

(c) Within 150 feet of the upland edge or forested wetland edge of the inland wetland complex within the waterfowl and wading bird habitat, cutting and removal of vegetation is limited to those activities described in Paragraphs C(4)(a) and (b) of this section.

[1] *Guidelines for Municipal Shoreland Zoning Ordinances,* 06-096 CMR 1000(15)(P) (chapter last amended May 1, 2006).

(d) No construction or clearing activity may take place from April 15 through July 31 of any year unless otherwise approved by the Maine Department of Inland Fisheries and Wildlife.

(7) All work is limited to the location and extent depicted on the plan or plans submitted pursuant to subsection B(3) of this section.

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

(1) **Development area.** The area of property altered including, but not limited to, buildings, driveways, parking areas, wastewater disposal systems, lawns and other landscaped areas, as of June 8, 2006. "Developed area" has the same meaning as "development area".

(2) **Inland high or moderate value waterfowl and wading bird habitat**. A high to moderate value inland habitat is an inland wetland complex, and a 250 foot wide zone surrounding the wetland complex, that through a combination of dominant wetland type, wetland diversity, wetland size, wetland type interspersion, and the percent of open water meets IF&W guidelines or is an inland wetland complex that has documented outstanding use by waterfowl or wading birds. See Chapter 335(10)(A) for complete criteria.

(3) **Shorebird nesting, feeding, and staging areas**. Shorebird nesting, feeding, and staging areas, and a zone surrounding those areas as described in paragraphs (4) and (5), are significant wildlife habitats. Shorebird species include the members of the families Scolopacidae, Charadriidae, and Haematopodidae, including, but not limited to, sandpipers and plovers. See Chapter 335(11) for complete criteria.

(4) **Shorebird feeding area**. A shorebird feeding or staging area that is not a roosting area. The shorebird feeding area includes a 100-foot-wide surrounding buffer referred to as the feeding buffer.

(5) **Shorebird roosting area**. A shorebird feeding or staging area that is also a roosting area. The shorebird roosting area includes a 250-foot-wide surrounding buffer referred to as the roosting buffer.

(6) **Structure**. Anything built for the support, shelter or enclosure of persons, animals, goods or property of any kind, together with anything constructed or erected with a fixed location on or in the ground. Examples of structures include buildings, utility lines and roads.

NOTE: The significant wildlife habitats subject to this section are depicted on GIS data layers maintained by IF&W and available from either IF&W or the DEP.

STATUTORY AUTHORITY: 38 M.R.S.A., Section 480-H & 341-D(1)

EFFECTIVE DATE:
February 15, 1989

AMENDED:

March 23, 1991
April 11, 1992
May 19, 1992
May 1, 1995

EFFECTIVE DATE (ELECTRONIC CONVERSION):
May 4, 1996

NON-SUBSTANTIVE CORRECTIONS:
May 12, 1997 - punctuation, formatting, comparison with May 14, 1995 amendment
October 29, 1998 - APA Office Note added to first Section 5

AMENDED:
June 1, 1999
July 16, 1999 (EMERGENCY, expires October 14, 1999) - Section 10(A)
October 15, 1999 - language reverted to June 1, 1999 version
February 14, 2000 - Section 10

NON-SUBSTANTIVE CORRECTIONS:
November 23, 2000 - removed erroneous April 21, 1995 amendment date

AMENDED:
September 1, 2002

NON-SUBSTANTIVE CORRECTIONS:
September 5, 2002 - title of Section 2 only

AMENDED:
May 25, 2005 – filing 2005-174
December 5, 2006 – filing 2006-496
February 25, 2008 – Section 20 only, filing 2008-88
July 15, 2009 – filing 2009-339
July 30, 2011 – Section 16 only, filing 2011-211 *(Final adoption, major substantive)*
June 8, 2012 – filing 2012-146 *(Final adoption, major substantive)*

APPENDIX C

RAILROAD SPECIFICATIONS

PAN AM RAILWAYS
1700 IRON HORSE PARK
NO. BILLERICA, MA 01862

January 19, 2015

Dale A. Mitchell, P.E.
Senior Project Manager
HNTB Corporation
340 County Road, Suite 6-C
Westbrook, ME 04092

RE: Installation of New Conduit on an Existing Bridge
Falmouth Spur
FALMOUTH, ME
VS 1 – MAP 1 (MEC)

Dear Mr. Mitchell,

Pan Am Railways (PAR) has reviewed the information package submitted on January 15, 2015 for the above referenced conduit installation. The Maine Turnpike Authority is proposing to install a pair of two inch conduits to the underside of a bridge along the Falmouth Spur. The conduits will be attached to the exterior side of the fascia girder in such a way that they will not extend beyond the bridge structure. This line crosses our Freight Main Line (FML) at Mile Post 191.3 (+/-) at Br 6.80. Based on a review of the information submitted to date, PAR respectfully submits the following comments regarding this project:

- As you are aware, any work activities that require access to Railroad Right-of-Way (ROW) and/or affect Railroad Operations require prior approval and must be performed under the supervision of a Railroad Flagman/Inspector. All work shall be coordinated accordingly with train movements.

- A plan shall be submitted to PAR showing how the underside of the bridge will be accessed. No vehicles will be permitted to cross the track at this location. The contractor will not be permitted to set up scaffolding within the minimum clearance envelope, which will be provided to HNTB.

- The Contractor will be required to execute a Standard Railroad Service Contract and provide an acceptable Railroad-protective insurance policy to our Real Estate Department prior to scheduling work. Please contact Mike Twidle at (978) 663-6937 for coordination of all Real Estate Department requirements.

- Please contact Mr. Keith Kady at (978) 808-7413 to coordinate Railroad Flagging/Inspection requirements upon finalization of the appropriate documentation with our Real Estate Department.

PAR review of this submittal was performed to insure conformance to Railroad requirements and therefore relies on the information provided. Based on the above-referenced comments, the project appears to be designed in accordance with our requirements subject to the above stipulations.

This letter of approval is valid for one (1) year from date of writing. If actual construction does not commence within that timeframe, the Railroad may require, at its discretion, additional terms and conditions under which the work shall be performed and/or resubmittal of plans and specifications for further consideration, without guarantee of approval.

If you have questions or require additional information regarding this letter, please do not hesitate to contact the undersigned at (978) 663-1127 or Mr. Ted Krug, P.E., Chief Engineer of Design and Construction at (978) 663-1108.

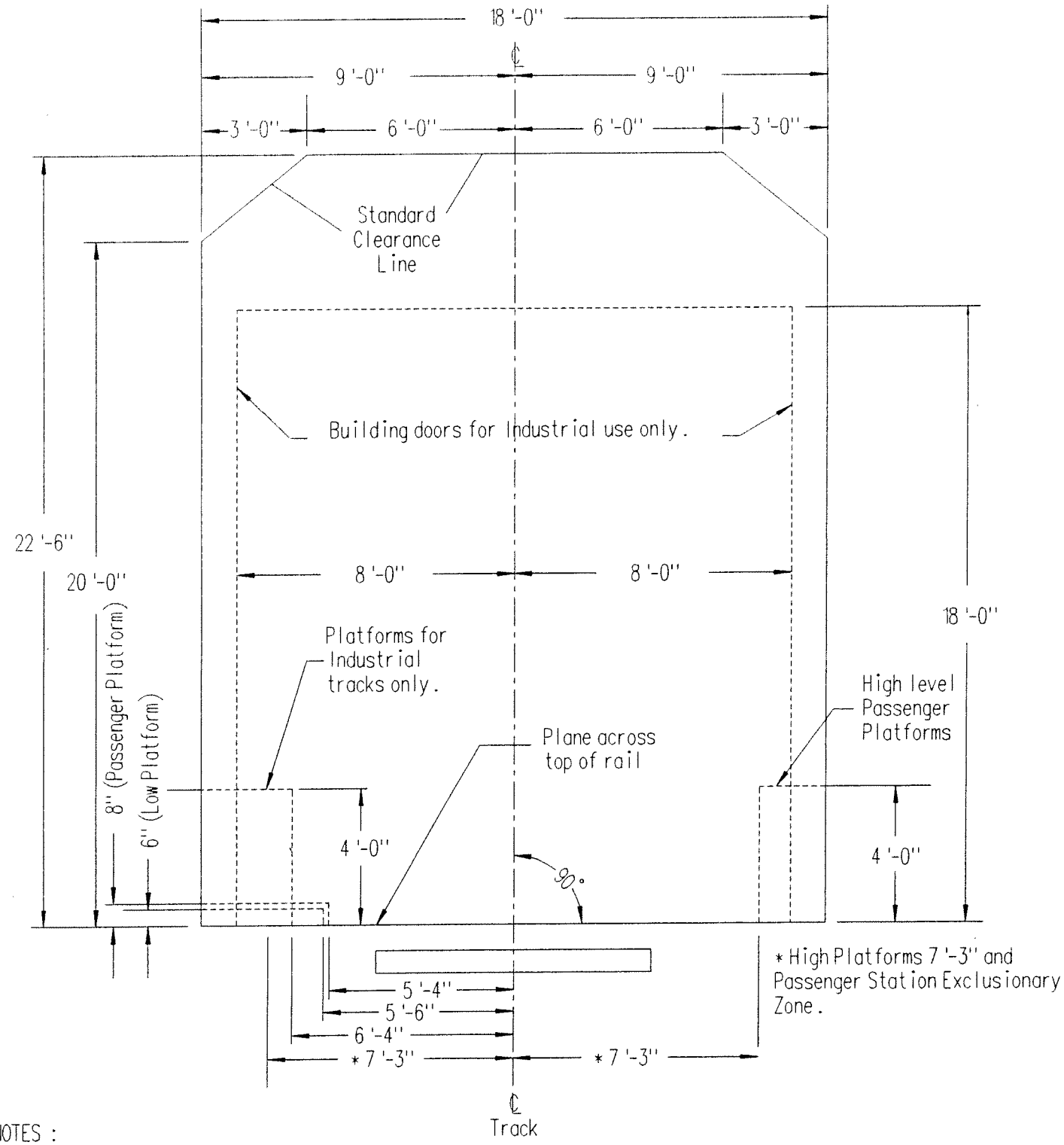
Very truly yours,

BOSTON AND MAINE CORPORATION/
SPRINGFIELD TERMINAL RAILWAY CO.

Shawn Higgins, P.E.
Project Engineer

CC: TK/MT/KK/DGR/File

GUILFORD RAIL SYSTEM
STANDARD CLEARANCE DIAGRAM
SPRINGFIELD TERMINAL RAILWAY CO.
BOSTON AND MAINE CORPORATION
MAINE CENTRAL RAILROAD CO.
PORTLAND TERMINAL CO.



NOTES :

1. The clearances shown are to be used for all new work and where possible in remodeling existing structures.
2. No obstruction of any kind whatsoever, shall be permitted within the standard clearance line, unless expressly approved by the Vice President-Engineering.
3. Clearances shown are for tangent track, add 1" per degree for curved track.

Issue Date : July 20, 2000

SECTION I

General Information

GTI - Rail Division
Engineering Department

January 1995

I. GENERAL INFORMATION

A. Initial Contact:

Guilford Transportation Industries-Rail Division (Boston and Maine Corp., Maine Central Railroad Company, and the Springfield Terminal Railway Company) owns rail lines in New England and the Northeast. In 1976 a portion of the Boston and Maine was sold to the Massachusetts Bay Transportation Authority, but is still operated over by the B&M. The B&M System and the MBTA sale is shown on the system map entitled "Boston and Maine Corp. - Lines Operated", at the end of this section. The sale consists of lines primarily North and Northwest of Metropolitan Boston, within the Commonwealth of Massachusetts.

Projects contemplated upon lines owned by GTI-Rail Division, the submission of plans and specifications should be made to the attention of the Chief Engineer-Design and Construction, GTI-Rail Division at the operating Railroad's headquarters. Also all legal documents and agreements should be made with the operating Railroad.

If the project contemplated is upon a line owned by the MBTA and operated by the B&M, the submission of plans and specifications should be made to the Chief Engineering Officer - Railroad Operations, MBTA, Ten Park Plaza, Boston, MA 02116 with a copy to the B&M Attention: Chief Engineer-Design and Construction.

B. Plans and Specifications:

1. SCOPE: It is the intent of the Railroad to eliminate or minimize any risk involved with construction on or affecting Railroad property. Therefore, we require Railroad approval of the plans and specifications for all phases of the proposed construction. The initial submission should contain three (3) sets for review with a later submission of five (5) sets for final approval.

2. PLANS: The plans are to show all the work which involves the Railroad (in some cases a partial set of the construction plans may be acceptable). They should contain a location map, a plan view of the project, with appropriate profiles and cross sections, and sufficient details. The proposed construction is to be located with respect to top of rail and centerline of track. Also to be included on the plan is Railroad stationing, property lines and subsurface soil conditions. The subsurface soils information is to be in the form of boring logs with the borings located on the plan view. (Please familiarize yourself with Railroad policy with regards to obtaining borings on Railroad property in Section II A.)

All pipe laid on Railroad property, adjacent to operating tracks must be capable of withstanding Railroad live loading. If reinforced concrete pipe is used, it must be Class 5 R.C. Pipe.

Pipe sleeves under Railroad tracks and along the right-of-way shall not be less than 5'6" below the base of rail. Under secondary or industry tracks, this distance may be reduced to 4'6", pending Railroad approval. The length of the pipe sleeve shall be the greatest length produced from the Railroad requirements shown on sheet 5, entitled "GTI Rail Division Requirements for Minimum Jacking Sleeve Lengths".

3. SPECIFICATIONS: The Specifications contained in Section III are the Standard Specifications of the Railroad. They apply to all types of construction work on the Railroad, including steel sleeves 30" in diameter and greater. These specifications are to be included in their entirety as a special section on the job specifications.

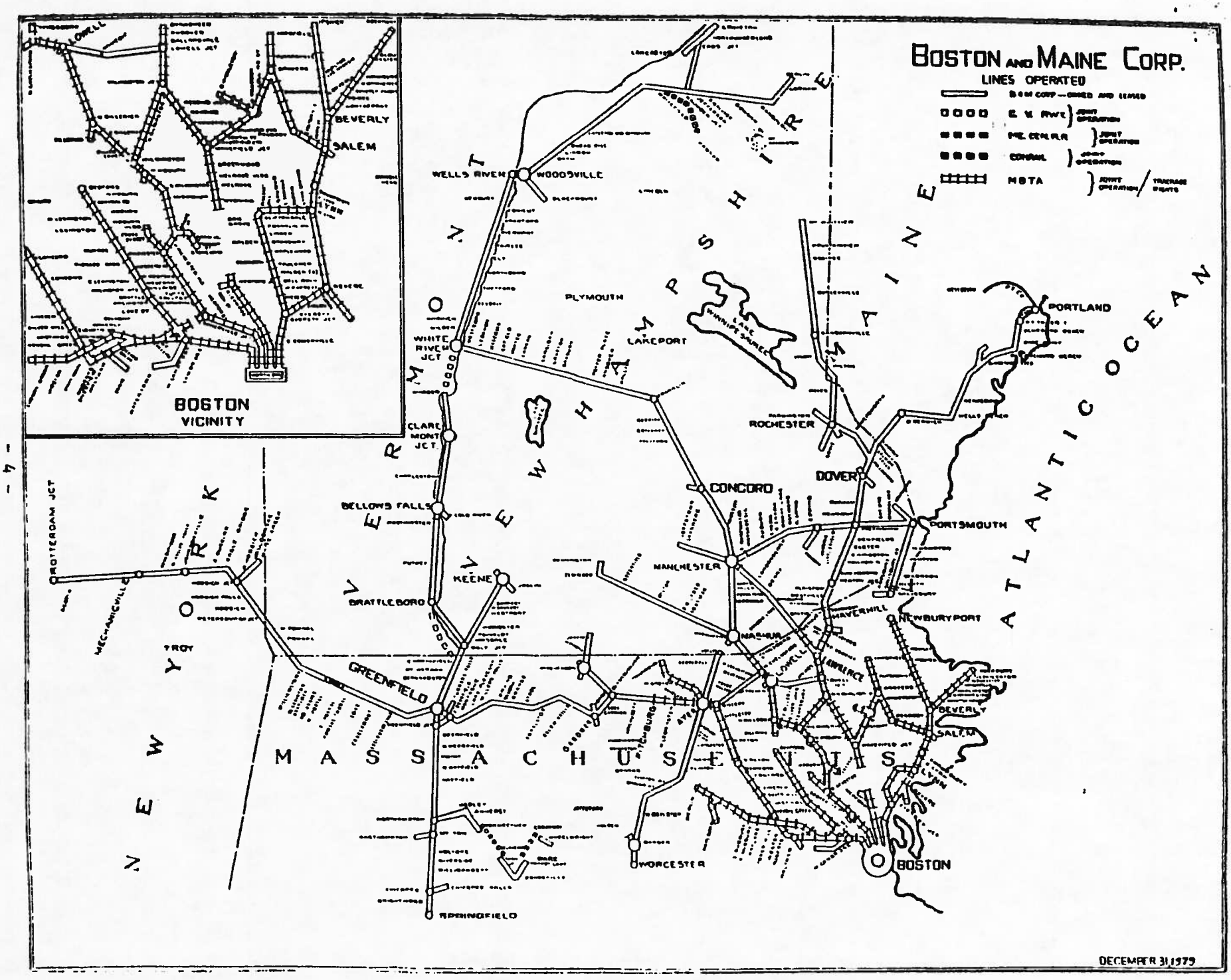
NOTE: Railroad specifications are the minimum requirements. In the event the contract specifications or drawings demand more stringent requirements, then, pending Railroad approval, the more stringent requirements will prevail.

On those projects which occur on MBTA property, the Standard MBTA Specifications are to be used.

C. <u>Review of Plans and Specifications</u>:

1. Project on lines owned by GTI-Rail Division:

The GTI-Rail Division requires payment for services it renders in the review of plans, specifications and related consultations, to cover crossings, bridges, pipes, conduits, wires, etc. which encroach upon Railroad property. An initial advance lump sum nonrefundable deposit to cover the cost of review is required. The amount of deposit will be determined at the time the initial submission is made. No work will proceed until the advance deposit has been received. Checks are to be made payable to the Operating Railroad.


BOSTON AND MAINE CORP.
LINES OPERATED
B&M CORP.—OWNED AND LEASED
E. V. RWY.
MC. CENTRAL
CONRAIL
MBTA
JOINT OPERATION
TRACKAGE RIGHTS
BOSTON VICINITY
LOWELL
BEVERLY
SALEM
LYNN
WELLS RIVER
WOODSVILLE
WHITE RIVER JCT
CLAREMONT JCT.
BELLOWS FALLS
BRATTLEBORO
KEENE
GREENFIELD
SPRINGFIELD
ROTTERDAM JCT
MECHANICVILLE
TROY
PLYMOUTH
LAKEPORT
LAKE WINNIPESAUKEE
CONCORD
MANCHESTER
NASHUA
ROCHESTER
DOVER
PORTSMOUTH
PORTLAND
HAVERHILL
NEWBURYPORT
LAWRENCE
WORCESTER
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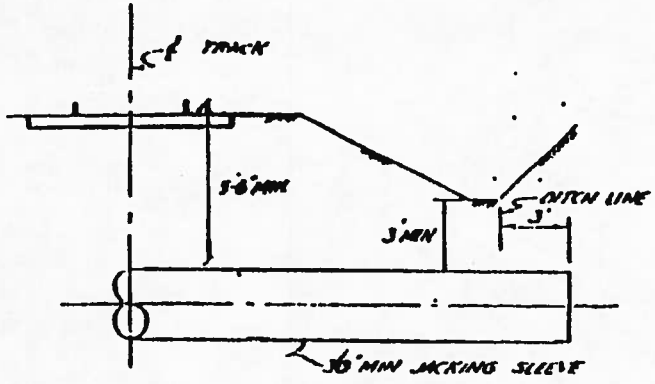
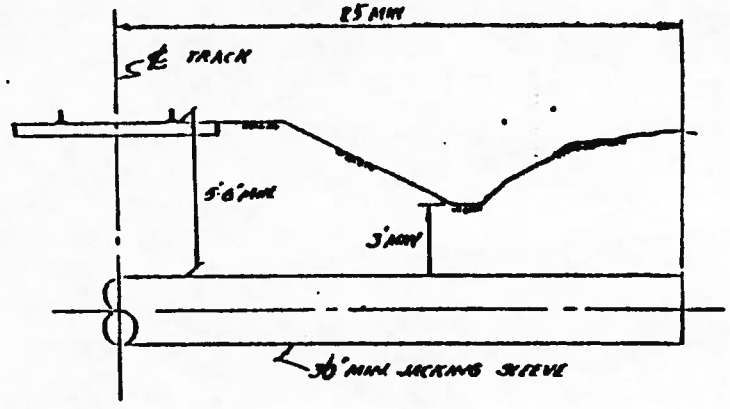
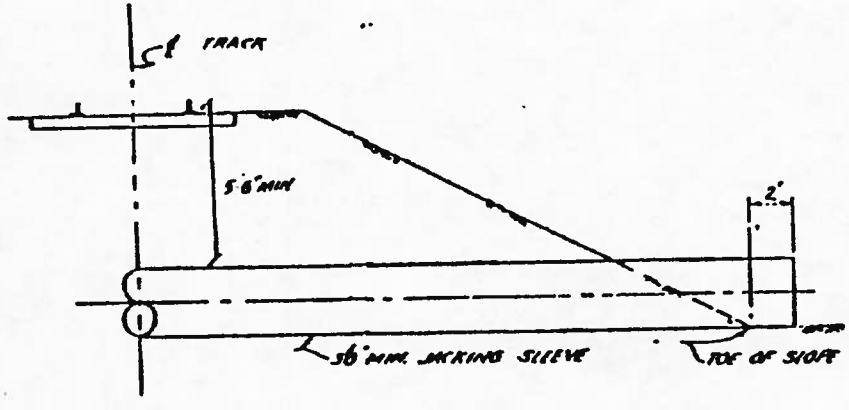
NEW HAMPSHIRE
MAINE
VERMONT
NEW YORK
MASSACHUSETTS
ATLANTIC OCEAN
DECEMBER 31, 1979



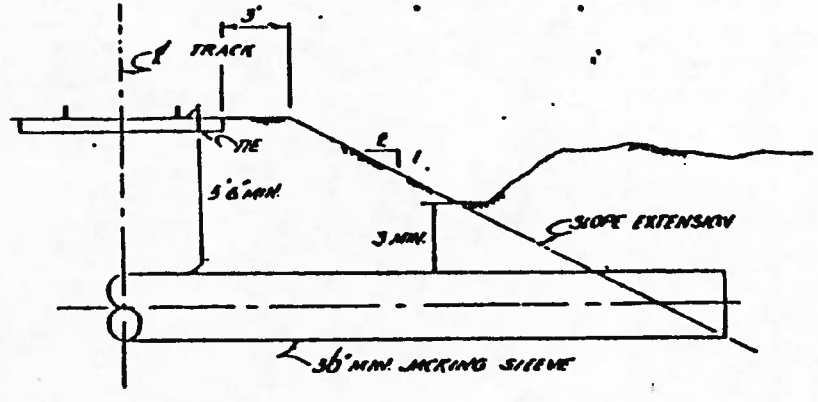
NO 1 GTI RAIL DIVISION REQUIREMENT FOR MINIMUM JACKING SLEEVE LENGTH



NO 3 GTI RAIL DIVISION REQUIREMENT FOR MINIMUM JACKING SLEEVE LENGTH



NO 2 GTI RAIL DIVISION REQUIREMENT FOR MINIMUM JACKING SLEEVE LENGTH



NO 4 GTI RAIL DIVISION REQUIREMENT FOR MINIMUM JACKING SLEEVE LENGTH

FOUR OF G.T.I RAIL DIVISION REQUIREMENTS FOR MINIMUM JACKING SLEEVE LENGTHS WITH 25 FEET AS THE ABSOLUTE MIN. FROM NEAREST ℄ TRACKS USE WHICH EVER OF THE FOUR (4) REQUIREMENTS GIVES THE GREATEST LENGTH.

SHEET 5

SECTION II

Railroad Policies

GTI - Rail Division
Engineering Department

January 1995

II. GTI-RAIL DIVISION POLICIES

A. Regarding obtaining Surface and Subsurface Information.

In the event that the property either operated or owned by GTI-Rail Division has to be entered upon to obtain surface or subsurface information, the contractor is to obtain Railroad approval for the boring locations, Railroad insurance, and execute the Standard Railroad Service Contract, prior to any work being done. The Assistant Chief Engineer-Design should be contacted for information and initiation of this process.

B. Regarding Underground Utility Crossings.

1. Method of Installation:

(a) In a Public Way: (No work shall be done without engineer approval by the Railroad and a Railroad Inspector present.)

1. In or immediately adjacent to an at-grade crossing which has been rebuilt within the past ten (10) years, no open cuts will be allowed. All sleeves will be installed by the jacking method.

2. In or immediately adjacent to an at-grade crossing not scheduled for rebuilding, the preferred method of installation is by jacking. As an alternate, the sleeve may be installed by open cut within an acceptable depth, with strict adherence to the backfill specifications, and with the Owners paying for the complete rebuilding of the crossing, train schedule permitting.

3. In or immediately adjacent to an at-grade crossing scheduled for rebuilding the preferred method of installation is by jacking. As an alternate, within seven (7) calendar days of the scheduled date of the crossing reconstruction, the sleeve may be installed by open cut within an acceptable depth, train schedule permitting. Strict adherence shall be made to the backfill specifications, which provides the Railroad with written certification from a testing lab or P.E. registered in the State in which the work is performed, that the backfill density requirements of the Railroad specifications have been met or exceeded.

(b) Not within a Public Way:

The accepted method of crossing the Railroad is by jacking of a pipe sleeve under the Railroad. Only upon written request, will an alternate of open cut be given consideration. The engineering decision shall be based upon, but not limited to track usage, depth of excavation, soil conditions, and physical constraints. In the event an open cut is allowed, the contractor or owner must adhere to the following items:

1. The installation is to be a continuous operation and performed to a Railroad approved schedule.

2. No work shall be done without a Railroad inspector present.

3. Strict adherence to the Railroad backfill specifications by the Owner or its Contractor.

4. The Owner or its Contractor is to provide the Railroad with a non-refundable, lump sum payment for after the fact maintenance. The determination of this amount is based on the individual situation. No work will be allowed until this payment is received. This payment is not to be confused with the advance deposit for Railroad protective services (flagging, inspection, etc.) also required from the Owner or its Contractor before he enters upon Railroad property. Checks are to be made payable to the Operating Railroad.

C. Regarding Insurance and Indemnification.

1. Before entering upon the property of the Railroad, the Owner or its Contractor shall:

(a) Provide insurance, as specified in the Railroad specifications. The original policy shall be provided to the Railroad. No work will be done until an acceptable policy has been received and approved. The Railroad shall have the right to increase the limits of liability for both public liability and property damage during the life of the agreement.

(b) The Contractor shall execute the Standard Railroad Service Contract which indemnifies and saves harmless the Railroad.

(c) Provide payment as shall be required by the Railroad's Real Estate Department for preparation of agreement(s) and review of insurance.

D. Regarding Legal Documents for Temporary and Permanent Installations on:

1. Railroad lines:

(a) Outside Public Ways:

The Owner is required to either obtain a License Agreement, which includes an annual rental charge, that may be terminated by either party by giving 30 to 90 days notice, or the Owner may apply for a permanent easement, which may or may not be approved by the Railroad.

(b) Within Public Ways:

The Owner is not required to obtain an easement from the Railroad or obtain a License Agreement from the Railroad to install a facility. However, the Owner is required to conform with the requirements of C-1a and C-1b, and the Standard Railroad Specifications.

2. MBTA lines operated and controlled by the Railroad:

(a) Outside Public Ways:

The legal requirements will be as determined by the MBTA, however, the Railroad will require written notification and copy of the Agreement from the MBTA, indicating that their requirements have been met prior to any work being initiated, and the Contractor to sign a Standard Railroad Service Contract.

(b) Within Public Ways:

The Owner is not required to obtain an easement from the Railroad or to obtain a License Agreement from the Railroad to install a facility. However, the Owner is required to conform with the requirements of C-1a and C-1b, and the Standard Railroad Specifications.

E. Regarding Permanent Clearances.

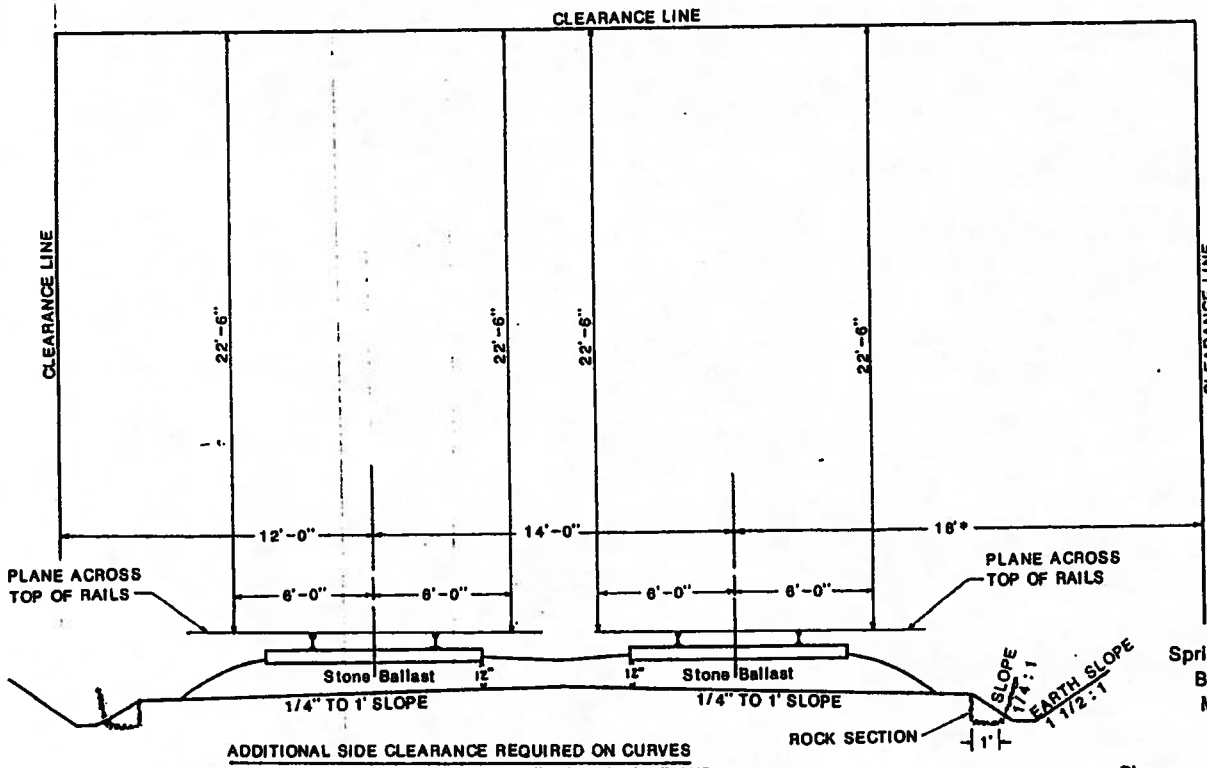
1. Railroad lines: All clearances for new construction shall adhere to those dimensions set forth on Standard Plan N8 entitled "GTI Rail Division Clearance Diagram New Bridge Construction". A copy of this standard plan is located at the end of this section. In the event of existing, severe limitations, the standard dimensions may be revised, at the discretion of the Railroad, but only upon written request.

2. MBTA lines operated and controlled by the Railroad.

(a) Railroad freight operations - The Chief Engineering Officer, GTI Rail Division, shall determine the clearance dimensions required for freight service.

Drawn HAT	
Checked	
Issue	Date
B	4/99

N8



ADDITIONAL SIDE CLEARANCE REQUIRED ON CURVES

INCREASE SIDE CLEARANCES 1 1/2" ON EACH SIDE AND 3" BETWEEN TRACKS FOR EACH DEGREE OF CURVE

ON SUPERELEVATED TRACK, THE TRACK CENTERLINE IS PERPENDICULAR TO A PLANE ACROSS TOP OF RAILS

Guilford Rail System
Springfield Terminal Railway Co.
Boston & Maine Corporation
Maine Central Railroad Co.

Clearance Diagram
for
New Overhead Bridge Construction

George S Thayer
CHIEF ENGINEER-DESIGN & CONSTRUCTION

Stephen F. Morse
VICE PRESIDENT-ENGINEERING

* ACCESS ROAD LOCATION DETERMINED BY SITE SPECIFICS

NOTE: OVERHEAD BRIDGE DRAINAGE MUST BE DIRECTED AWAY FROM THE RAILROAD

Standard Railroad Specifications

Pan Am Railways/
Springfield Terminal Railway Company
Engineering Department

Office of Vice President Engineering
N. Billerica, Massachusetts
Date: 01/2011

SPECIFICATIONS RELATING TO WORKING WITHIN PREMISES OF PAN AM RAILWAYS / SPRINGFIELD TERMINAL RAILWAY CO.

No other section of the Project Specifications shall supersede or modify this Section entitled: SPECIFICATIONS RELATING TO WORK WITHIN PREMISES USED AND CONTROLLED BY PAN AM RAILWAYS / SPRINGFIELD TERMINAL RAILWAY COMPANY.

1. DEFINITIONS:

1.1 Railroad: The work "Railroad" means Pan Am Railways and the Springfield Terminal Railway Company, their successors or assigns and their officers, agents and servants.

1.2 Owner: The word "Owner" means the individual, utility, government, or corporation who has title to the structure to be constructed upon property owned, controlled, or adjacent to the Railroad.

1.3 Utility: The work "Utility" includes public or private communication, water, sewer, electric, gas and petroleum companies.

1.4 Government: The work "Government" includes State, Town, City, County and other forms of Municipal Government.

1.5 Corporation: The word "Corporation" shall mean any firm duly incorporated under laws of a State Government.

1.6 Individual: The work "Individual" shall mean any party, which is not defined by 1.3, 1.4, or 1.5.

1.7 Contractor: The work "Contractor" means the individual, partnership, firm, corporation or any combination thereof, or joint venture, contracting with either a Utility, Government, Corporation or Individual, for work to be done on Railroad Property.

1.8 Owner or it's Contractor: The term "Owner or its Contractor" as used in these specifications shall not affect the responsibilities of each party as set forth in the Project Specifications.

1.9 Chief Engineering Officer of the Railroad: The Vice President of Engineering or Chief Engineer-Design and Construction or their authorized representatives at the Railroad.

2. SCOPE:

These specifications intend to provide for safeguards to the property owned or controlled by the Railroad and to its operations upon that property during construction operations by the Owner or its Contractor.

3. GENERAL:

3.1 Before entering upon Railroad premises or property used and controlled by the Railroad:

3.1.1 The Owner or its Contractor shall fully inform himself of all requirements of the Railroad as pertains to the specific project and shall conduct all his work accordingly. Any questions relating to the requirements of the Railroad should be directed to the representative of the Chief Engineer-Design and Construction at the Operating Railroad.

3.1.2 The Owner or its Contractor shall execute the Railroad's Standard Service Contract, and shall provide the Real Estate Department of the Railroad the insurance specified under Section 8.

3.1.3 The Owner or its Contractor shall take note that if an excavation is to be made within a 2 to 1 slope line commencing 3 feet from the end of tie, he shall submit for approval by the Chief Engineering Officer of the Railroad, his proposed method of preventing the soil from running.

3.1.4 The Owner or its Contractor shall furnish detailed plan, for falsework, bracing, sheeting, or other supports adjacent to the tracks for approval by the Chief Engineering Officer of the Railroad, and the work shall be performed in accordance with the approved plans. All plans and calculations shall be stamped by a Professional Engineer registered in the State in which the work is to be performed.

3.1.5 The Owner or its Contractor shall furnish to the Chief Engineering Office of the Railroad for approval complete sequence and plans with sufficient detail for checking, for the installation of, temporary supporting or removal of all members or structures above track. All such work shall be performed in

accordance with the approved plans and specifications. All plans and calculations shall be stamped by a Professional Engineer registered in the State in which the work is to be performed.

3.1.6 The Owner or its Contractor shall give written notice to the representative of the Chief Engineer-Design and Construction of the Railroad at the headquarters of the Operating Railroad at least seven (7) days in advance of starting work or locating equipment at the site. In addition, the Contractor shall give notice on the Wednesday prior to the week he proposed to do work which might cause any hazard, as described under Sections 4.

3.1.7 The Owner or its Contractor shall make all necessary arrangements with the Railroad before entering upon Railroad premises, or Property used and controlled by the Railroad.

3.1.8 The Owner or its Contractor shall at all times be aware that the Railroad may at any time withhold entry due to lack of flagging and/or inspection personnel.

3.2 After entering upon Railroad premises or property used and controlled by the Railroad.

3.2.1 The Owner or its Contractor shall have in his possession on the job site the contract plans and specifications, which bear the stamp of approval of the Railroad's Engineer of Design. The Owner or its Contractor shall conduct all his work according to these plans and specifications.

3.2.2 All work shall be performed and completed in a manner fully satisfactory to the Railroad's Chief Engineering Officer or his authorized representatives. Railroad inspection of the work shall be permitted at all times and the Owner of its Contractor shall cooperate fully with the Railroad representatives.

3.2.3 All equipment used by the Owner or its Contractor on Railroad premises or property used and controlled by the Railroad may be inspected by the Railroad and shall not be used if considered unsatisfactory by the Railroad's representative. Equipment of the Owner or its Contractor to be used adjacent to tracks shall be in first class condition so as to positively prevent

any failure that world cause delay in the operation of trains or damage to Railroad facilities. Equipment shall not be placed or put into operation adjacent to a track without first obtaining the permission of the Railroad.

3.2.4 Operators of such equipment may be examined by the Railroad representative to determine their fitness. If it is determined that they are unfit to work then the owner or its Contractor shall remove them from service.

3.2.5 Cranes used for lifting loads over Railroad property shall be rated at 150% of the load based on the crane manufacturer's load chart.

3.2.6 If the Chief Engineering Officer of the Railroad deems it necessary, the Owner or its Contractor shall furnish and erect in close proximity to the site of the work a suitable, furnished shelter with lights, heat, telephone, etc., exclusively for Railroad personnel mentioned previously.

3.2.7 The Owner or its Contractor's work shall be performed in such manner that the tracks, traffic and appurtenances of the Railroad will be safeguarded. He shall ascertain and comply with the requirements of the Railroad relative to his work on or adjacent to Railroad premises and except as permitted, he shall keep the tracks clear of obstruction.

3.2.8 Open excavations shall be suitable planked over when construction operations are not in progress.

3.2.9 Blasting will be permitted under or adjacent to tracks only after proof that blasting is required and all methods have been submitted to and approved by the Railroad's Chief Engineering Officer.

3.2.10 The Owner or its Contractor shall be fully responsible for all damages arising from his failure to comply with the requirements of these specifications.

3.2.11 If the specifications of the Railroad and the Consulting firm differ, then that which is more stringent shall prevail.

4. HAZARDS:

4.1 The Contractor's attention is called to the fact that the work under the Contract shall be performed adjacent to Main Line track, telephone lines, telegraph lines, signal lines and electric supply lines of the Railroad. A maximum speed of about __ miles per hour will be considered as prevailing for the operation of trains of the Railroad at this project.

4.2 An operating track shall be considered fouled and subject to hazard when any object or operation is or can be brought nearer than 15 feet to the centerline of the track. Specific site conditions may increase this dimension at the discretion of the Chief Engineer or his authorized representative.

4.3 A signal line or communication line shall be considered fouled and subject to hazard when any object is brought nearer than 4 feet to any wire or cable.

4.4 An electrical supply line shall be considered fouled and subject to hazard when any object is brought nearer than 10 feet to any wire of the line.

4.5 Cranes, trucks, power shovels, or any other equipment shall be considered as fouling a track, signal line, communication line, or electric supply line when working a position that failure of equipment with or without load could foul the track, signal line, communication line or electric supply line.

4.6 Railroad operations will be considered subject to hazard when explosives are used in the vicinity of Railroad premises, during the driving or pulling of sheeting for footings adjacent to a track, when erecting structural steel across or adjacent to a track, when operations involve swinging booms or chutes that could in any way come nearer than 15 feet to the center line of a track or wire line. None of these or similar operations, therefore, shall be carried on during the approach or passing to a train.

4.7 When, in the opinion of the Chief Engineering Officer of the Railroad or his representative the construction work would cause hazard to the safe operation of trains or to other Railroad facilities including any communication lines on Railroad premises, the Railroad will employ the necessary qualified employees to protect its trains and other facilities.

5. CLEARANCES:

Staging, falsework, or forms shall at all times be maintained with a minimum vertical clearance of 22'-6" above top of the rail and a minimum side clearance of 10'-0" from the center line of track, unless otherwise approved by the Railroad.

6. PROTECTION/INSPECTION SERVICES:

6.1 If deemed necessary by the Chief Engineering Officer of the Railroad the Railroad will furnish and assign an engineer(s) or inspector(s) for general inspection purposes or for general protection of Railroad property and operations during construction. Prior to start of any work on the Railroad, the Owner or its Contractor shall submit a deposit in the amount required by the Railroad. The Railroad may request additional deposits if projected expenses exceed the initial deposit amount. If the Railroad expenses are less than the amount of deposit, the Railroad will refund the balance to the Owner or its Contractor, after receipt of a written request. The Railroad will provide at its sole discretion such personnel, as it deems necessary or advisable because of the project. The Railroad reserves the right to request additional deposits as project work progresses. All checks are to be made out to the Operating Railroad.

6.2 If the Railroad determines that flagmen are necessary, the number required shall be on duty at the site during the hours of hazard described under Section 4. No work shall be performed if flagmen are required but not on duty.

6.3 It shall be the responsibility of the Owner or its Contractor to keep the Railroad informed at all times, and prior to such times, when the Owner or its Contractor shall be working on, above, or adjacent to

the Railroad creating the hazards described under Section 4. Failure of the Owner or its Contractor to give the Railroad suitable advance notice of hazardous operation shall result in the stoppage of the Owner's or its Contractor's work by the Railroad, until such time as sufficient number of flagmen are on duty at the site.

7. EXTRA-CONTRACT SERVICES:

7.1 Temporary and permanent changes of tracks and telephone lines, telegraph lines, signal lines, and electric supply lines made necessary by or to clear the permanent work of the Contractor will be made or caused to be made by the Railroad at the expense of the Owner or its Contractor.

7.2 All other changes made or services furnished by the Railroad, at the request of the Owner or its Contractor will be at the Owner's or its Contractor's expense.

8. INSURANCE:

8.1 At his sole expense the Owner or its Prime Contractor shall obtain, prior to working adjacent to Railroad premises and entry upon Railroad premises and keep in force during entire term of the work and for six (6) months subsequent to completion of work the following amounts and kinds of insurance. All policies shall be written for a minimum of one (1) year.

(A) Work on Pan Am Railways Property:

1. Contractors Public Liability - $5,000,000/$10,000,000

2. Contractors Property Damage Liability - $5,000,000/$10,000,000

3. The named insured shall be written exactly as follows: "Maine Central Railroad Co. and The Springfield Terminal Railway Company, their affiliates, successors and assigns,c/o Pan Am Railways, Iron Horse Park, North Billerica, Massachusetts 01862."

(B) Work on MBTA Property or other property where MBTA passenger service is operated:

1. Contractors Public Liability - $5,000,000/$10,000,000

2. Contractors Property Damage Liability - $5,000,000/$10,000,000

3. The named insured shall be written exactly as follows: "Pan Am Railways and The Springfield Terminal Railway Company, their affiliates, successors and assigns, and the Massachusetts Bay Transportation Authority."

The insurance shall be a Railroad Protective Liability Policy in a form acceptable to the Railroad.

The ORIGINAL insurance policy shall be furnished to the Real Estate Department of the Railroad at least ten (10) days prior to commencement of work. The Railroad shall have the right to increase the limits of liability for both public liability and property damage during the life of the agreement.

9. EXCAVATION:

9.1 The Owner or its Contractor shall furnish detail plans for falsework, bracing, shoring, sheeting, or other supports for excavation adjacent to the tracks to the Chief Engineering Officer of the Railroad for approval. The work shall be performed in accordance with the approved plans. No approval shall be given until the advance deposit (Item 6.1) has been received.

9.2 Open excavations shall be suitably planked over when construction operations are not in progress.

9.3 As excavation approaches pipes, conduits, or other underground structures on or adjacent to Railroad property, digging by machinery shall be discontinued and the excavation shall continue by means of hand tools.

9.4 All existing pipes, poles, wires, fences, property line markers, and other structures, which the Railroad's Chief Engineering Officer decides must be preserved in place without being temporarily or permanently relocated shall be carefully protected for damage by the Owner or its Contractor. Should such items be damaged, they shall be restored by the Railroad, at the Owner's or its Contractor's sole

expense, to at least as good condition as that in which they were found immediately before the work was begun.

9.5 If any excavation is taken beyond the work limit indicated on the approved plans or prescribed herein, the Owner or its Contractor shall backfill and compact as prescribed herein at his own expense.

9.6 The Railroad IS NOT a Dig Safe member utility. The Owner or its Contractor must contact the Railroad to have sub surface Railroad utility lines marked out prior to any excavation on Railroad property. The Owner or its Contractor will conduct all work so as to carefully protect Railroad utilities and will be responsible for all costs incurred to repair or replace Railroad utilities that are damaged.

10. BACKFILL:

10.1 Material

The material shall consist of stones, rock fragments and fine, hard durable particles resulting from the natural disintegration of rock. The material shall be free from injurious amounts of organic matter. The wear shall be not more than 60 percent. The material shall consist of a mixture of stones or rock fragments and particles with 95 to 100 percent passing the 3 inch sieve and 25 to 70 percent passing the No. 4 sieve. Not more than 15 percent of the material passing the No. 4 sieve shall pass the No. 200 sieve.

10.2 Backfilling

10.2.1 All backfill material adjacent to a pipe shall be approved soil. Backfill material shall be free from hard lumps and clods larger than 3-inch diameter, and free from large rocks or stumps. Uniformly fine material shall be placed next to any pipe liable to dent or break.

10.2.2 All backfill material shall be compacted at near optimum moisture content, in layers not exceeding 6 inches in compacted thickness by pneumatic tampers, vibrator compactors, or other approved means to the base of the Railroad subgrade. Care shall be

exercised to thoroughly compact the backfill under the haunches of the pipe to insure that the backfill soil is in intimate contact with the side of the pipe. Fill at the sides of the pipe may be compacted by rolling or operating heavy equipment parallel with the culvert, provided care is taken to avoid displacement or injury of the pipe. Material in the vicinity of pipes shall be compacted to not less than 95 percent of AASHO T 99, Method C. The Contractor will be required to supply, to the job site, ballast stone as prescribed herein to be installed by the Railroad.

10.3 The Owner or its Contractor shall provide testing, if requested by the Railroad, through the use of a testing lab or Professional Engineer registered in the State in which the work is performed, to insure that the in place density of the backfill meets or exceeds the requirements of Section 10.2.2. Written certification of the tests shall be given to the Railroad immediately upon completion of the test.

All Items Not addressed by the Pan Am Railways/ Springfield Terminal Railway Company's Standard Railroad Specifications shall conform to the latest specifications set forth in the American Railway Engineering and Maintainence of Way Association's Manual for Railway Engineering.

10.3 Certification

The Owner or its Contractor shall provide testing, through the use of a testing lab or Professional Engineer registered in the State in which the work is performed, to insure that the in place density of the backfill meets or exceeds the requirements of Section 10.2.2. Written certification of the tests shall be given to the Railroad immediately upon completion of the test.

11. BALLAST STONE

11.1 Material

Ballast shall consist of crushed stone with zero to fifteen percent passing a 1" screen, ninety to one hundred percent passing a 1.5" screen and one hundred percent passing a 2" screen.

11.2 Installation

The ballast stone shall be installed by Railroad forces according to Railroad Standards.

12. STEEL SLEEVE REQUIREMENTS FOR JACKING OPERATIONS

12.1 The outside diameter of the casing pipe shall be a minimum of thirty-six (36) inches (900 mm) with a minimum of six (6) inches (150 mm) greater than the largest outside diameter of the carrier pipe, joints or coupling.

12.2 The casing pipe shall be designed to withstand Coopers E-80 Railroad loading. Refer to the table below for nominal minimum thickness of steel sleeve required for a specific casing pipe diameter.

DIAMETER (inch)	DIAMETER (mm)	THICKNESS (inch)	THICKNESS (mm)
36	850 - 900	0.532	14
38 - 44	950 - 1100	0.569	15
46 - 50	1150- 1250	0.688	18
52 - 54	1300- 1350	0.813	21
60 - 66	1500- 1650	0.876	22
>66	>1676	investigate use of steel liner plate	

12.3 The casing pipe shall have a minimum yield strength of 35,000 psi (241325 kpa) and conform to the latest revisions of the requirements of A.W.A. Standards for fabricating electrically welded steel water pipes or its equivalent.

12.4 Method of Installation

12.4.1 The Owner or its Contractor shall submit to the Chief Engineering Officer, data and information demonstrating that he or his subcontractor has had successful previous experience in jacking in similar circumstances.

12.4.2 Before any work is begun within the limits of jacking the Owner or its Contractor shall have assembled all tools, materials and equipment which will be required. When the Owner or its Contractor has started the jacking operation, he will proceed in a continuous operation without stopping. This will minimize the tendency of the material to freeze around the pipe.

12.4.3 A jacking shield shall be used and jacked ahead of the casing pipe. The excavation within the jacking pipe should not advance beyond the head of the pipe shield. If the stability at the face needs to be maintained from raveling or running soil, suitable temporary bulkheads, struts and bracing shall be required. After completion of the sleeve installation the anular space around it shall be completely grouted with cement grout under pressure.

12.5 Method of Joining Casing Pipe Ends

The casing pipe shall be jacked without being welded through the use of a collar plate as shown on the sheet entitled, "Method of Jacking and Joining the Steel Sleeve Sections". Upon completion of the jacking operation either the continuous butt weld will be performed or a continuous interior collar plate is to be provided as shown.

Alternate Method:

Casing pipe ends shall be beveled with a single V-groove for field welding. Pipe joints shall be butt welded and shall be a full penetration on the outside circumference of the pipe. The single V-groove butt weld shall conform to the latest A.W.S. Welding Code. All joints of the casing pipe shall be butt welded, by a certified welder, prior to being subject to the jacking operation.

13. GROUND STABILIZATION

If required, it shall be done to the soil prior to the start of jacking. Stabilization shall be by either dewatering or grouting or combination of both to maintain the stability of the face of the heading.

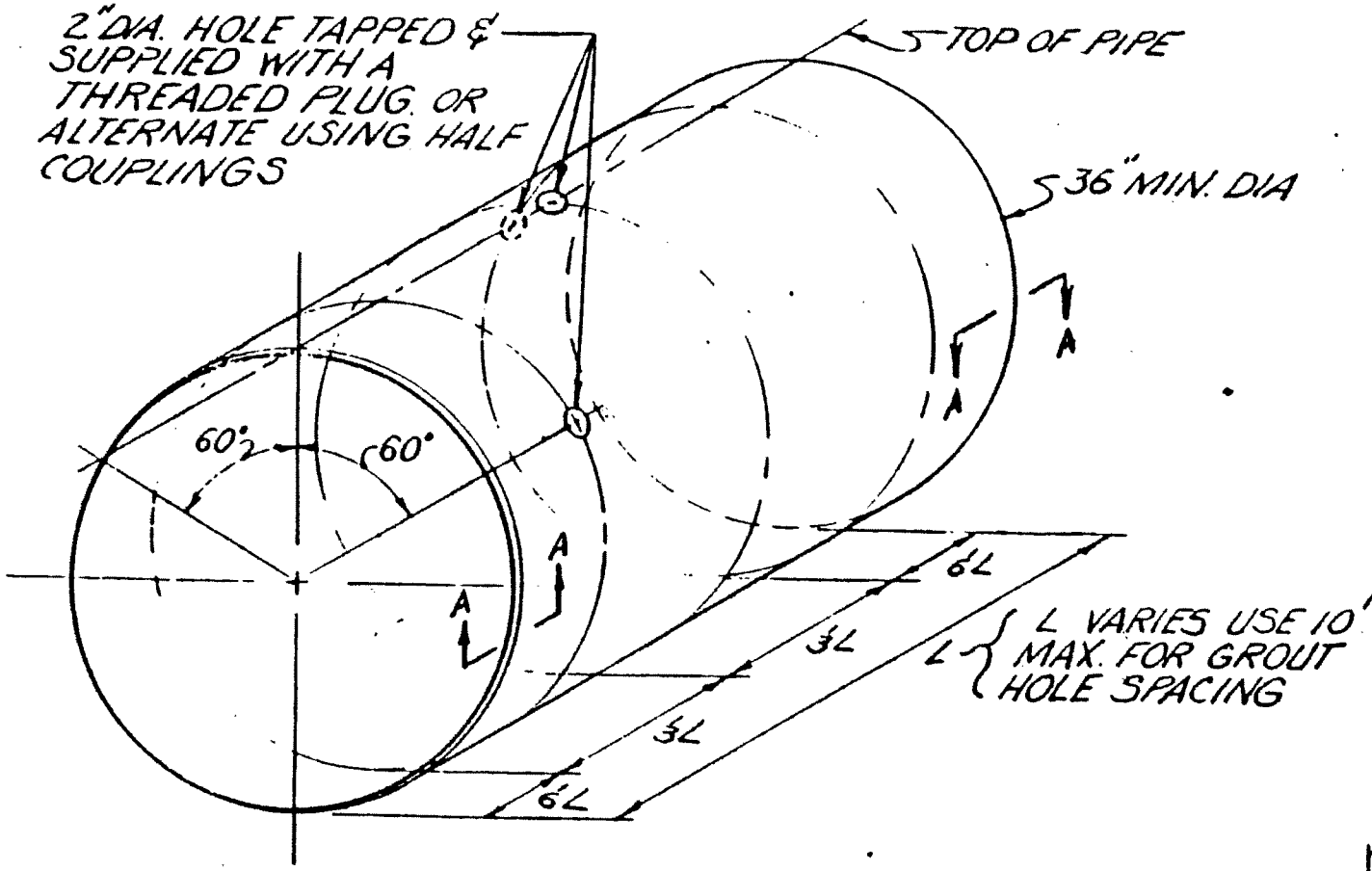
13 1 Dewatering

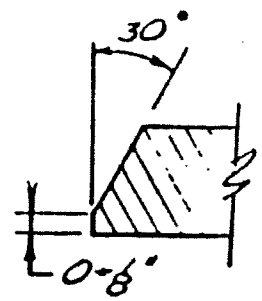
The Owner or its contractor shall lower and maintain the ground water level a minimum of 2 feet below the invert at all times during construction by well points, vacuum well points, or deep wells to prevent inflow of water or water and soil into the heading. Ground water observation wells shall be installed in the area to be dewatered to demonstrate that the dewatering requirements are being complied with.

13.2 Grouting

The grouting contractor shall be a specialist in the field with a minimum of five (5) continuous years of successfully grouting soils. All granular soils (silty sands, sand or sand and gravel) shall be stabilized by injection of a cement or chemical grout from the ground surface or from the pipe heading. The stabilization shall extend as far as necessary outside the periphery of the casing pipe in order to maintain a stable face at the heading.

13.3 Knowing that dewatering can cause settlement, it will be necessary that Railroad forces survey the crossing prior to, during and after construction. If it is found the tracks need to be aligned and surfaced by the Railroad forces because of the construction, the cost of this shall be borne by the Owner, or if so designated, by the Owner's Contractor.





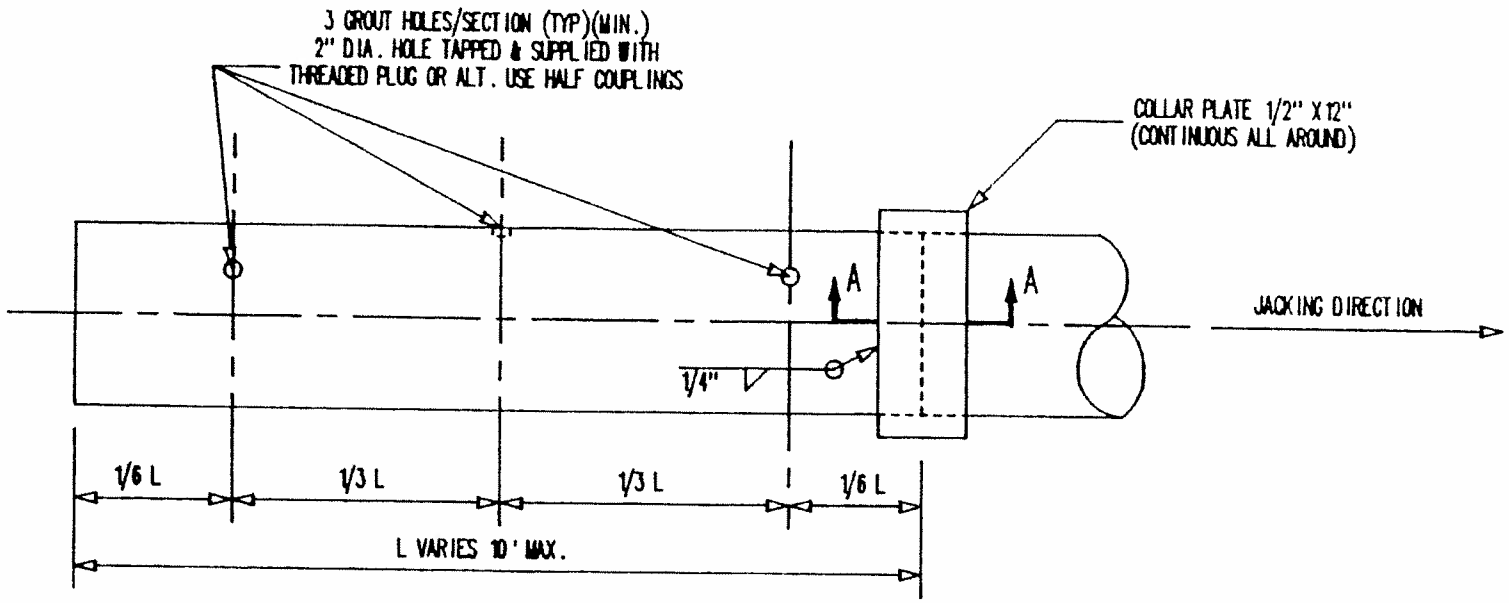
STEEL SLEEVE

GROUT HOLES W/ THREADED PLUGS SHALL BE PROVIDED IN THE STEEL SLEEVE. A MINIMUM OF 3 GROUT HOLES WILL BE REQUIRED PER A 10 FOOT (MAX.) SECTION OF STEEL SLEEVE.

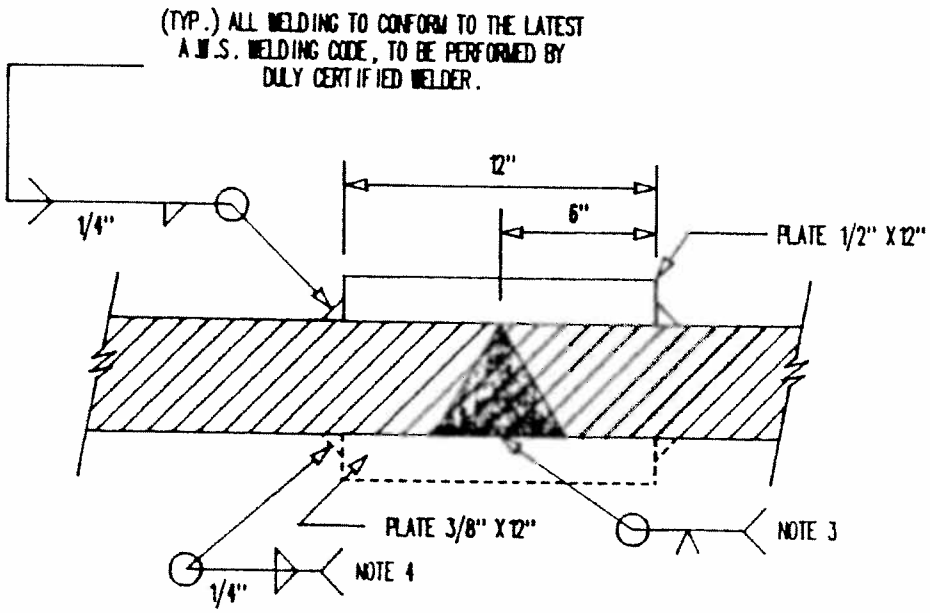
SECTION A-A

BY: D. IVANOV
DATE: 5-23-79

SHEET:



STEEL JACKING SLEEVE DETAIL



SECTION A-A

NOTES:

1. STEEL SLEEVE TO BE [redacted] 36" MIN. DIA.
2. STEEL SLEEVE TO BE BEVELED ON THE INTERIOR OF THE PIPE.
3. THE CONTINUOUS BUTT WELD SHALL BE PERFORMED WHEN THE JACKING OPERATION IS FINISHED. (FOR ALTERNATE TO BUTT WELDING, SEE NOTE 4.)
4. AS AN ALTERNATE TO NOTE 3, PROVIDE A CONTINUOUS INTERIOR PLATE 3/8" X 12" WELDED ALL AROUND UPON COMPLETION OF THE JACKING OPERATION.

METHOD OF JACKING & JOINING
STEEL SLEEVE SECTIONS

BOSTON & MAINE CORP. DATE: 5/09/90 BY: DGR

APPENDIX D

BUCKEYE PARTNERS, L.P. AND AFFILIATES
RIGHT-OF-WAY USE RESTRICTIONS
SPECIFICATION

BUCKEYE PARTNERS, L.P. AND AFFILIATES
Five TEK Park, 9999 Hamilton Boulevard
Breinigsville, PA 18031

Right-of-Way Use Restrictions Specification
Revision 4

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Purpose and Scope

This Right-of-Way Use Restrictions Specification (hereinafter called "Specification") has been developed by Buckeye Partners, L.P. and Affiliates (hereinafter called "Buckeye") and is intended for landowners, utility owners, general contractors and their sub-contractors, pipeline/utility contractors, real estate developers, brokers and agents, lending officers and title underwriters, engineers, architects, surveyors, and local / governmental elected staffs (hereinafter called "Crossing Party") as a guideline for the design and construction of proposed land development.

Buckeye appreciates this opportunity to work with you in the planning stages of your development (or construction activity), and we look forward to working with you proactively. Buckeye's primary concern when activities are taking place near our pipeline is public safety and environmental protection. The intent of this Specification is to provide a clear and consistent set of requirements that will: (1) reduce the risk of damage to our pipeline and related facilities; (2) ensure unencumbered access to our right-of-way and pipeline facilities and the availability of adequate workspace for routine maintenance, future inspection, and/or repair work on our pipeline; and (3) enable the effective corrosion protection of our pipeline.

All such activities and projects that are performed near Buckeye's pipeline facilities are subject to formal review by Buckeye prior to issuance of final written approval. Depending on the scope of the project and its impact on Buckeye's pipeline facilities, additional engineering requirements and protective measures may apply. The following requirements are not only the policy of Buckeye, but comply with regulations set forth by the United States Department of Transportation, Safety Regulations, 49 CFR, Parts 192 and 195.

We want to be a good neighbor, but to do so requires us to act responsibly in protecting our right-of-way and preventing damage to the pipeline system. While we want to make every effort to accommodate your desired use of your property, our responsibility for public safety is paramount. Through proper planning and communications, we can ensure the safety and integrity of our pipeline system and the welfare of our neighbors.

The transmittal of this Specification does not constitute Buckeye's approval or permission for the Crossing Party to begin construction or work within or across the pipeline right-of-way. Work may not commence until written authorization approving such work has been issued by Buckeye.

1.0 General Guidelines

1.1 The safety of the pipeline must be considered at all times. No attempt to probe for or engage in any construction activities which might damage the pipeline is permitted.

1.2 Before any preliminary field work or construction begins in the vicinity of Buckeye's pipeline, a determination of the exact location and elevation of the pipeline must be made. To coordinate this procedure, please contact our local Field Operations Manager at the Buckeye facility nearest to your proposed project (see Attachment 1 for a listing of Buckeye's facilities and telephone numbers).

1.3 All proposed drawings/plans must be submitted to Buckeye's Right of Way Department for review to determine to what extent, if any, the pipeline or right-of-way will be affected by the proposed construction and/or development. These drawings/plans must be prepared in strict compliance to Attachment 4, "Requirements for Submission of Design Plans".

1.4 When any construction activity is conducted in or around our pipeline right-of-way, Buckeye's On-Site Inspector must be present at all times. **NO WORK SHALL TAKE PLACE WITHOUT A BUCKEYE ON-SITE INSPECTOR PRESENT**. For this free-of-charge service, contact our local Field Operations Manager at the Buckeye facility nearest to your proposed project.

1.5 The Crossing Party shall contact Buckeye for re-marking of a pipeline if the existing markers are inadequate for any reason, including disturbance due to construction activities.

Note: Federal law prohibits the removal of pipeline markers.

1.6 The Crossing Party shall not burn trash, brush, or other items or substances within 50 feet of the pipeline.

1.7 The Crossing Party shall not store any equipment or materials on the right-of-way.

1.8 During routine or emergency maintenance on the pipeline, the cost to restore approved surface improvements (e.g., pavement, landscaping, sidewalks, etc.) shall be the responsibility of the Crossing Party.

2.0 Excavation and Construction Restrictions

2.1 Excavation operations shall be performed in accordance with appropriate State "One-Call" utility locating system requirements. As a matter of State law, anyone undertaking excavation work is required to call three (3) working days before excavating in MA, ME, MI, MO, NJ, PA, SC, TN, and WI; two (2) working days in all other states (see Attachment 3 for State "One-Call" numbers).

2.2 The Crossing Party will conduct "white-lining" of any proposed excavation areas. Buckeye will erect temporary pipeline markers/flags (yellow) identifying the location of the pipeline within the work area, and will provide information on how to respond should the pipeline be damaged or a commodity release occur. All personnel operating equipment over or around the pipeline must be made aware of its location and what to do if they make contact with the pipeline.

2.3 When a Crossing Party excavates near Buckeye's pipeline, a Buckeye representative must locate the pipeline and determine the depth of cover before the Crossing Party begins excavation. The Buckeye representative and the excavator must review and complete an Excavation Safety Checklist (Attachment 8). The Crossing Party shall not perform any excavation, crossing, backfilling, or construction operations until Buckeye's On-Site Inspector has reviewed the proposed work on site and given approval for work to proceed. Buckeye's On-Site Inspector shall have full authority to stop the work if it is determined that the work is being performed in an unsafe manner.

2.4 No equipment shall work directly over the pipeline. The Crossing Party shall install temporary fencing along Buckeye's right-of-way boundaries so that equipment will not inadvertently pass over the pipeline at locations other than those established for crossing (see Section 3.6).

2.5 When excavating within the right-of-way, the Crossing Party's backhoe shall have a plate welded over the teeth of the backhoe bucket, and the side cutters must be removed prior to

excavation. However, if within 24 inches of the outer edge of the pipe (this "tolerance zone" extends on all sides of the pipe), only hand excavation, air cutting, and vacuum excavation are permitted.

2.6 No excavations shall be made on land adjacent to the pipeline that will in any way impair, withdraw lateral support, cause subsidence, create the accumulation of water, or cause damage to the pipeline or right-of-way.

2.7 The Crossing Party shall ensure all excavation work complies with OSHA's excavation standards outlined in 29 CFR 1926 and correct any noncompliant excavation site before Buckeye's On-Site Inspector or the Crossing Party enters the site to perform work.

2.8 If conditions require, the Crossing Party shall be directed by Buckeye to install sand or cement bags or other suitable insulating materials to maintain proper vertical clearance from the pipeline.

2.9 At any location where the pipeline is exposed, the Crossing Party shall provide Buckeye the opportunity to inspect the pipeline condition, install cathodic protection test leads, and/or install underground warning mesh.

2.10 The maximum unsupported exposed length of pipe shall be 20 feet for 4-inch-diameter pipe, 25 feet for 6-inch- to 10-inch-diameter pipe, and 35 feet for 12-inch- to 24-inch-diameter pipe. When required, the pipeline shall be supported with grout and sand bags or padded skids. At no time shall the pipeline be used as a brace to support equipment or sheeting/shoring materials.

Note: The Crossing Party shall submit a support plan for Buckeye's review and approval.

2.11 No buried pipeline may be left exposed for any duration of time without concurrence of Buckeye's On-Site Inspector.

2.12 Backfill and compaction shall be performed to the satisfaction and in the presence of Buckeye's On-Site Inspector. At least 6 inches of fine, loose earth or sand with no sharp gravel, rock, hard clods, vegetation, or other debris shall be placed on all sides of any pipeline, and remaining backfill shall be placed so as not to disturb this padding material or damage the pipeline. Backfill over the pipe shall be compacted by hand until 18 inches of cover is achieved. The disturbed ground shall be compacted to the same degree of compaction of surrounding areas. The Crossing Party shall restore the site to its original condition except for items that are part of the Buckeye approved change.

3.0 Specific Guidelines

3.1 Cover, Grading, and Drainage

3.1.1 **Cover and Grading**:

a. The existing cover over the pipeline shall not be modified without Buckeye's written approval.
b. The final grading shall net a minimum cover of 36 inches over the pipeline.
c. In areas where buildings are proposed within 50 feet of the pipeline or due to other surface improvements and/or in areas determined by Buckeye, final grading shall net a minimum cover of 48 inches over the pipeline.
d. The maximum allowable cover/soil shall not exceed six (6) feet without Buckeye's written approval.

e. Use of vibratory equipment larger than walk-behind units is not permitted within 25 feet of the pipeline.

3.1.2 **Drainage**:

a. Detention ponds, lakes, structures or any type of impoundment of water, temporary or permanent, are prohibited within the right-of-way.
b. Culverts are not permitted within the right-of-way.
c. Any modifications to an existing drainage pattern shall be designed such that the erosion of the pipeline cover is controlled.
d. For streams, drainage channels, and ditches, a minimum of cover of 60 inches is required between the pipeline and the bottom of the drainage canal or ditch (see Section 3.3.1.f for road drainage ditches).

3.2 <u>Aboveground and Underground Structures</u>

3.2.1 **General Requirements**:

a. Buildings or other structures, including, but without limitation, overhanging balconies, patios, decks, swimming pools, wells, walls, septic systems, propane tanks, transformer pads, or the storage of materials which creates an obstruction or prevents the inspection of the right-of-way by air or foot, shall not be erected within the right-of-way.
b. The Crossing Party shall not develop or build retaining walls, drive piling or sheeting, or install an engineered structure that develops or controls overburden loads that will impact the pipeline (see Section 3.9).
c. Deep foundations which include piers, caissons, drilled shafts, bored piles, and cast-in-situ piles located within 500 feet of the pipeline shall be installed/drilled using an auger.
d. Occupied structures shall not be located within 50 feet of the pipeline unless a minimum cover of 48 inches is provided above the top of the pipeline.
e. Any deviation for aboveground and underground structures will be reviewed by Buckeye on a ***case-by-case basis***.

3.2.2 **Gardening and Landscaping**:

a. Trees or large shrubs and bushes are not permitted within the right-of-way. Trees planted outside of the right-of-way should be placed so branches and limbs will not overhang the pipeline right-of-way as the tree matures. Buckeye may trim/remove overhanging branches and limbs that encroach into the right-of-way.
b. Flowerbeds, vegetable gardens, lawns, and low shrubbery not exceeding 30 inches are permitted within the right-of-way. Buckeye is not responsible for replacing any plantings located within the right-of-way.

3.2.3 **Fences and Walls**:

a. Privacy fences or fences that prevent access to the right-of-way are not permitted.
b. All other fence installations within the right-of-way will be reviewed for approval by Buckeye on a ***case-by-case basis***. Upon Buckeye's written approval, fences shall be constructed with a 14-foot gate or removable sections across the right-of-way.
c. Fence posts shall not be installed within 5 feet of the pipeline and must be equidistant if crossing the pipeline.
d. No fence shall cross the right-of-way at less than a 60-degree angle.
e. Fences that run parallel to the pipeline shall be installed outside the right-of-way.
f. Masonry, brick, or stone walls are not permitted on the right-of-way.

3.3 Roads, Driveways, Sidewalks, and Parking Areas

3.3.1 **General Requirements**:

a. Roads, driveways, sidewalks, or parking areas shall not be constructed across the right-of-way without Buckeye's written approval. Upon Buckeye's approval, roads, driveways, and sidewalks shall cross perpendicular to the pipeline.
b. The maximum allowable cover shall not exceed six (6) feet without Buckeye's written approval.
c. Use of vibratory equipment larger than walk-behind units is not permitted within 25 feet of the pipeline.
d. Roads or driveways shall not be installed longitudinally within the right-of-way.
e. For roads and driveways, a minimum cover of 48 inches with a net cover of 36 inches of undisturbed soil is required above the pipeline.
f. A minimum cover of 36 inches over the pipeline is required at road drainage ditches. Upon Buckeye's approval, this cover can be reduced to 24 inches if ditch is rock/rip-rap lined and 12 inches if ditch is concrete lined.
g. For asphalt parking lots and sidewalks, a minimum cover of 36 inches with a net cover of 24 inches of undisturbed soil is required above the pipeline. Additional cover may be required by Buckeye based upon specific site conditions.

3.4 Foreign Utility Crossings

3.4.1 **General Requirements**:

a. Utilities shall cross perpendicular to the pipeline.
b. Utilities are required to cross beneath the pipeline with a minimum clearance of 24 inches. Exceptions to Buckeye's clearance requirements for underground service entrances to single family dwellings will be reviewed on a ***case-by-case basis***.
c. Sand or select fill shall be placed between the pipeline and utility (see Section 2.8).
d. Utilities installed parallel to the pipeline shall be reviewed by Buckeye on a ***case-by-case basis***. If approved, the utility shall be no closer than 15 feet from the pipeline.
e. Warning tape, in accordance with A.P.W.A. Uniform Color Code, shall be placed above utility, 12 inches below ground, for a distance of 25 feet on either side of crossing.
f. Signage shall be placed at crossing as determined appropriate by Buckeye.
g. Trenchless Excavations:
   [1] Utilities installed by a trenchless excavation method (directional drilling, jacking, slick boring, etc.) shall be reviewed by Buckeye on a ***case-by-case basis***.
   [2] Buckeye reserves the right to select the method of crossing for the proposed utility.
   [3] A minimum clearance of 60 inches (5 feet) below the pipeline is required.
   [4] For directional drilling operations, a surface wire tracking system is required to verify the exact location of the drill head.
   [5] A 4 feet by 4 feet excavation window, 24 inches below the pipeline is required for visual inspection of the pipeline to ensure the drill (or bore) does not impact the pipeline.
   [6] Blind boring is not permitted within Buckeye's right-of-way.

3.4.2 **Metallic Utilities**:

a. Bonds and test leads shall be installed at the expense of and by the Crossing Party where Buckeye deems necessary.
b. Utilities shall be coated with a non-conductive coating for a distance of 50 feet on either side of the pipeline crossing.

c. Ductile water pipe shall include nitrile gaskets within 50 feet of the pipeline crossing or anywhere within 25 feet of horizontal offset locations.

3.4.3 **Non-Metallic Utilities**:

a. Utilities shall be wrapped with tracer wire within the width of the right-of-way.
b. Natural gas (or other industrial gases) lines shall be encased in a 6-inch envelope of yellow 2,000 psi concrete across the right-of-way.
c. PVC water pipe shall include nitrile gaskets within 50 feet of the pipeline crossing or anywhere within 25 feet of horizontal offset locations.

3.5 Electrical, Fiber-Optic, and Communications Cables

3.5.1 **General Requirements**:

a. Cables shall cross perpendicular to the pipeline.
b. Cables installed parallel to the pipeline shall be reviewed by Buckeye on a ***case-by-case basis***. If approved, the cable shall be no closer than 15 feet from the pipeline.
c. Splice boxes, service risers, energized equipment, etc., are not permitted within the right-of-way.

3.5.2 **Buried Cables**:

a. Cables are required to cross beneath the pipeline with a minimum clearance of 24 inches. Exceptions to Buckeye's clearance requirements for underground service entrances to single family dwellings will be reviewed on a ***case-by-case basis***.
b. Sand or select fill shall be placed between the pipeline and cable (see Section 2.8).
c. All cables shall be installed in Schedule 80 PVC pipe and encased in a 6-inch envelope of red 2,000 psi concrete (orange for fiber) across the right-of-way.
d. Warning tape, in accordance with A.P.W.A. Uniform Color Code, shall be placed above the utility, 12 inches below ground, for a distance of 25 feet on either side of the crossing.
e. Signage for the crossing shall be placed as determined appropriate by Buckeye.
f. Trenchless Excavations:
   [1] Utilities installed by a trenchless excavation method (directional drilling, jacking, slick boring, etc.) shall be reviewed by Buckeye on a ***case-by-case basis***.
   [2] Buckeye reserves the right to select the method of crossing for the proposed utility.
   [3] A minimum clearance of 60 inches (5 feet) below the pipeline is required.
   [4] For directional drilling operations, a surface wire tracking system is required to verify the exact location of the drill head.
   [5] A 4 feet by 4 feet excavation window, 24 inches below the pipeline is required for visual inspection of the pipeline to ensure the drill (or bore) does not impact the pipeline.
   [6] Blind boring is not permitted within Buckeye's right-of-way.

3.5.3 **Aboveground Cables**:

a. A minimum of 20 feet of above-grade clearance for a distance of 25 feet on each side of the pipeline is required.
b. Mechanical supports and service drops including poles, towers, guy wires, ground rods, anchors, etc., are not permitted within 25 feet of the pipeline.

3.6 Temporary Access Roads and Heavy/Construction Vehicle Crossings

3.6.1 **General Requirements**:

a. Trucks carrying a maximum axle load up to 15,000 pounds may cross the right-of-way after Buckeye has confirmed a minimum cover of 48 inches over the pipeline.
b. For all other cases, earthen ramps (see Attachment 6), swamp mats, reinforced-concrete slabs (see Attachment 5), or steel plates may be required. Loading conditions and protection measures will be evaluated and dictated by Buckeye's Engineering Department.
c. During the use of an approved temporary construction road, Buckeye may require that the Crossing Party provide additional protective measures deemed necessary to prevent damage to the pipeline.
d. Buckeye will limit the number of temporary construction roads constructed by the Crossing Party.

3.7 Railroad Crossings

3.7.1 **General Requirements**:

a. A minimum clearance of 72 inches is required between railroad tracks and the pipeline.
b. A minimum cover of 36 inches is required between the bottom of drainage ditches on either side of a railroad and the pipeline.
c. For railroad main lines, the pipeline crossing must comply with local railroad guidelines that delineate the requirements for carrier pipe, casing pipe, and clearances. Buckeye shall be consulted for the review of any State submittals.
d. For private spur crossings, Buckeye will determine the railroad entity having jurisdictional authority to dictate crossing requirements.

3.8 Farming and Field Tile

3.8.1 **General Requirements**:

a. Field tile running parallel to the pipeline shall be spaced 10 feet from the centerline of the pipeline.
b. Field tile shall cross the pipeline perpendicularly with a clearance of 12 inches above or below the pipeline.
c. Buckeye will approve the total number of crossings of the pipeline on a ***case-by-case basis***.
d. Deep plowing or "ripping" operations shall be approved by and coordinated with Buckeye.

3.9 Construction-Induced Vibrations

3.9.1 **General Requirements**:

a. Construction activities that generate ground vibrations, including, but without limitation, pile driving, sheet driving, soil compaction work, jackhammering, or ramming, shall be reviewed by Buckeye on a ***case-by-case basis***.
b. If the Crossing Party anticipates such an activity within 300 feet of the pipeline, then continuous testing monitored by a seismograph located directly over the pipeline at its closest point to the activity must be conducted. The Crossing Party shall provide, at their expense, the monitoring service which must be approved by Buckeye.

c. The particle velocity of any one component of a three-component seismograph must not exceed 2.0 inches per second as recorded on the seismograph placed directly over the pipeline.

3.10 Blasting Operations

3.10.1 **Blasting within 500 feet of the pipeline right-of-way**:

a. The Crossing Party must submit a blast plan to Buckeye for review and approval. Verbal and written notice will be given 14 and 21 days respectively.
b. Blasting plans must include the following information:

- Dates blasting to occur
- Explosives type
- Maximum shot hole depth and diameter
- Number of holes and spacing
- Delay pattern
- Delay types and intervals
- Depth of overburden
- Depth of blast area
- Maximum charge per hole, per delay
- Show drilling/blasting pattern plan and profile in relation to Buckeye facilities
- Calculated radiant peak particle velocity (PPV) at varying distances from the pipeline and at the pipeline itself
- State permit (copy)
- Blasting contractor qualifications and insurance certificate (copy)
- Blasting Safety Plan (copy)

The Crossing Party shall complete Attachment 7, "Blasting Plan Submission Form", and include this form with their submission to Buckeye.

c. The Crossing Party shall make arrangements for a Buckeye On-site Inspector to be present to witness the blasting operation.

3.10.2 **Blasting within 300 feet of the pipeline right-of-way**:
(**Adds to or replaces items in Section 3.10.1**)

a. Blasting shall be monitored by a seismograph located directly over the pipeline at its closest point to the blast hole(s). The Crossing Party shall provide, at their expense, the monitoring service which must be approved by Buckeye.
b. The particle velocity of any one component of a three-component seismograph must not exceed 2.0 inches per second as recorded on the seismograph placed on the ground directly over the pipeline.
c. For blast testing, an initial test blast using a maximum charge of one pound shall be performed. The Crossing party shall detonate the first test blast with all necessary monitoring equipment in place to observe the results of the proposed blast design. Each subsequent test blast may be set and detonated only after the seismograph reading from the previous test blast indicates that further blasting can be safely conducted.
d. Routine production blasting may be initiated after completion of a successful test blast, with allowable charge based on the seismographic vibration recordings of test blasts. However, all blasting must be continuously monitored by a seismograph. The velocity recorded must not exceed the 2.0 inches per second limit noted above.

3.10.3 **Blasting within 50 feet of the pipeline right-of-way**:
(Adds to or replaces items in Section 3.10.2)

a. The Crossing Party shall hire a consulting firm that specializes in underground blasting to conduct the seismograph survey and certify the results.
b. Buckeye will approve the Crossing Party's selection of consulting firms that will conduct the seismographic surveys before starting any blasting operation.

3.10.4 **Special Requirements**:

a. For multiple-delay blasting, the Crossing Party shall begin the blasting sequence at the charge closest to the pipeline and progress away from the pipeline.
b. If seismographic readings above the limit stated in item 3.10.2.d of this section are recorded, the pipeline must be exposed and inspected for possible damage and/or product release. The Crossing Party conducting blasting operations is responsible for all expenses related to the exposure and any subsequent repairs necessitated by the operation.
c. At Buckeye's request, the Crossing Party shall install sheet piling, open trench channels, and/or matting to protect the pipeline during blasting operations.

3.11 Seismic Vibrating Operations

3.11.1 **Seismic vibrating within 500 feet of the pipeline right-of-way**:

a. The Crossing Party must submit a seismic vibrating plan to Buckeye for review and approval. Verbal and written notice will be given 14 and 21 days respectively.
b. Seismic vibrating plans, when using Vibroseis System Vibrators to radiate ground vibrations, must include information on soil conditions and depth of exploration, the anticipated number and type of vibrations, type and weight of vehicle, and peak force of equipment.
c. The peak force by vehicle weight shall not exceed 45,000 pounds.
d. The Crossing Party shall also make arrangements for a Buckeye On-Site Inspector to be present to witness the seismic vibrating operation.

3.11.2 **Seismic vibrating within 100 feet of the pipeline right-of-way**:

a. Vibration shall be monitored by a seismograph located directly over the pipeline at its closest point to the vibrator(s). The Crossing Party shall provide, at their expense, the monitoring service which must be approved by Buckeye.
b. The Crossing party shall determine and limit the maximum peak force allowed under continuous seismographic vibration monitoring such that the peak particle velocity will not exceed 2.0 inches per second.
c. Seismic vibration surveys shall not be conducted closer than 100 feet to the pipeline.

3.11.3 **Special Requirements**:

a. If seismographic readings above the limit stated in item 3.11.2.b of this section are recorded, the pipeline must be exposed and inspected for possible damage and/or product release. The Crossing Party conducting seismic vibrating operations is responsible for all expenses related to the exposure and any subsequent repairs necessitated by the operation.
b. At Buckeye's request, the Crossing Party shall install sheet piling and/or open trench channels to protect the pipeline during seismic vibrating operations.

3.12 Wind Turbines

3.12.1 **Setback Distance from Pipelines**

a. Wind turbine structures shall be set back from any Buckeye pipeline at least a distance equal to 110% of the structure height, which is defined as the height of the entire wind turbine system as measured from the bottom of the base to the highest vertical point of the system including the base and tower and the highest reach of the turbines or blades.
b. No facilities associated with a wind turbine installation project shall be permitted to be installed within the pipeline easement.
c. Warning lights shall be installed on all wind turbines that are located within 1,200 feet of any Buckeye pipeline.

3.12.2 **Construction Equipment and Crane Crossings**

a. All temporary access roads and heavy/construction vehicle crossings shall comply with Section 3.6 above.
b. Where cranes and other maintenance vehicles will need to cross Buckeye pipelines on a routine permanent basis for maintenance of the turbine(s), permanent crossing locations must be established, an encroachment agreement must signed by the landowner and facility owner, and permanent crossing protections must be installed to the satisfaction of Buckeye.
c. Construction materials or equipment shall not be transported longitudinally over Buckeye's pipelines.

4.0 Deviations and Exceptions

4.1 When and where special circumstances dictate, deviation from these requirements must be formally approved by Buckeye in writing prior to commencement of any excavation or other construction activity that may impact the pipeline. Any such deviations must be explained and documented and provided to Buckeye for review and approval.

5.0 Additional Information and Buckeye Contacts

5.1 Should you have any questions regarding pipeline rights-of-way or your specific easement, contact Buckeye's Right of Way Department at the applicable phone number listed in Attachment 2.

5.2 Should you have any questions regarding Buckeye's engineering requirements, contact Buckeye's Encroachment Design Reviewer at the phone number also listed in Attachment 2.

Attachment 1: Buckeye Facility Locations and Phone Numbers

Alabama	Birmingham	(205) 369-0179
	Montgomery	(334) 309-4710
California	Lodi	(209) 368-9277
	San Diego	(714) 269-9028
Connecticut & Massachusetts	Wethersfield	(860) 529-7781
	New Haven	(203) 469-3479
Florida	Port Everglades	(954) 522-8464
Georgia	Birmingham (AL)	(205) 369-0179
Illinois	Argo	(708) 259-1352
	Lemont (West Shore)	(708) 227-0962
	Mazon	(815) 448-2491
	Hartford	(618) 255-1102
Indiana	Hammond	(219) 989-8601
	Hammond (West Shore)	(708) 227-0962
	Huntington	(260) 356-5802
Iowa	Cedar Rapids	(708) 259-1352
	Council Bluffs	(712) 366-9461
	Des Moines	(515) 226-4017
	Ottumwa	(641) 684-6789
Louisiana	Liberty (TX)	(936) 336-5773
Maine	South Portland	(207) 767-2672
Michigan	Wayne	(734) 721-8834
Missouri	Milan	(660) 265-4045
	St. Louis	(618) 225-1102
	Sugar Creek	(916) 836-6000
	Burlington Junction	(660) 725-3386
Nevada	Reno	(760) 802-1535
New Jersey	Linden	(908) 374-5301
New York	Auburn	(315) 253-5395
	New York City	(718) 656-5746
North Carolina	Goldsboro	(919) 778-2712
Ohio	Lima	(419) 993-8025
	Mantua	(330) 274-2234
	Toledo	(419) 698-8190
Pennsylvania	Boothwyn	(610) 459-3441
	Coraopolis	(412) 264-7432
	Duncansville	(814) 695-4852
	Malvern	(610) 695-8000
	Mechanicsburg	(717) 766-7633
	Macungie	(484) 232-4218
Tennessee	Memphis	(901) 395-0122
Texas	Liberty	(936) 336-5773
Wisconsin	Milwaukee (West Shore)	(708) 227-0962
	Madison (West Shore)	(815) 964-3727

Attachment 2: Right of Way & Engineering Contacts

Name	Responsibility	Phone / Address / Email
David Boone	**Manager, Right of Way, Permits & One Call**	(610) 904-4401 5 TEK Park, 9999 Hamilton Blvd. Breinigsville, PA 18031 DBoone@buckeye.com
Chris McPike	**Sr. Specialist, Right of Way** *Central District:* Eastern Ohio, Pennsylvania (Central & Western)	(412) 299-7019 469 Moon Clinton Road Coraopolis, PA 15108 CMcPike@buckeye.com
Marty White	**Sr. Specialist, Right of Way** *West/Central District:* Michigan, Ohio (except for Eastern Ohio), Indiana (except for Northwestern Indiana)	(419) 993-8008 940 Buckeye Road Lima, OH 45804 MWhite@buckeye.com
Michael Norris	**Sr. Specialist, Right of Way** *West District:* Northern & Central Illinois, Northwestern Indiana, Wisconsin	(219) 313-5321 12920 Bell Road Lemont, IL 60439 MRNorris@buckeye.com
Wesley Pekarek	**Specialist, Right of Way** *West District:* Iowa, Missouri, Southern Illinois	(816) 836-6096 1315 N. Sterling Ave. Sugar Creek, MO 64054 WPekarek@buckeye.com
Ronald Bates	**Sr. Specialist, Right of Way** *East/Northeast District:* Northeastern Pennsylvania, New York, New Jersey, Connecticut, Maine, Massachusetts, Maryland	(484) 232-4482 5002 Buckeye Road Emmaus, PA 18049 RBates@buckeye.com
Daniel Mangum	**Sr. Specialist, Right of Way & Development** *South District:* Texas, Louisiana, Tennessee, Alabama, Georgia, South Carolina, Nevada, Florida, North Carolina	(832) 325-1626 One Greenway Plaza, Suite 600 Houston, Texas 77046 DMangum@buckeye.com
Beth Auman	**Sr. Specialist, Right of Way** *Encroachment Design Review:* East, Northeast, Central, West Districts *East District:* Southeastern Pennsylvania, Virginia	(610) 904-4409 5 TEK Park, 9999 Hamilton Blvd. Breinigsville, PA 18031 Bauman@buckeye.com
Teriann Williams **Jeannette Fluke**	**Right of Way Coordinators** *Easements and Records:* Supporting East, Northeast, Central, and West Districts	(610) 904-4418 (610) 904-4404 5 TEK Park, 9999 Hamilton Blvd. Breinigsville, PA 18031 TEWilliams@buckeye.com JFluke@buckeye.com

Attachment 3: State One Call Systems (National One Call System - Dial 811)

State	One Call Program	Phone No.	Website
Alabama	Alabama 811	(800) 292-8525	www.al811.com
California - North **- South**	USA North of Central / Northern California & Nevada Dig Alert & Underground Service Alert South	(800) 227-2600 (800) 422-4133	www.usanorth.org www.digalert.org
Connecticut	Call Before You Dig	(800) 922-4455	www.cbyd.com
Florida	Sunshine State One Call	(800) 432-4770	www.callsunshine.com
Georgia	Georgia 811	(800) 282-7411	www.georgia811.com
Illinois - Non-Chicago **- Chicago**	Julie, Inc. DIGGER - Chicago Utility Alert Network	(800) 892-0123 (312) 744-7000	www.illinois1call.com www.cityofchicago.org/transportation
Indiana	Indiana 811	(800) 382-5544	www.indiana811.org
Iowa	Iowa One Call	(800) 292-8989	www.iowaonecall.com
Louisiana	Louisiana One Call System, Inc.	(800) 272-3020	www.laonecall.com
Maine	Dig Safe System Inc.	(888) 344-7233	www.digsafe.com
Massachusetts	Dig Safe System Inc.	(888) 344-7233	www.digsafe.com
Michigan	MISS Dig System, Inc.	(800) 482-7171	www.missdig.net
Missouri	Missouri One Call System, Inc.	(800) 344-7483	www.mo1call.com
Nevada	USA North of Central / Northern California & Nevada	(800) 227-2600	www.usanorth.org
New Jersey	New Jersey One Call	(800) 272-1000	www.nj1-call.org
New York	Dig Safely New York	(800) 962-7962	www.digsafelynewyork.com
New York City & Long Island	New York 811, Inc.	(800) 272-4480	www.newyork-811.com
North Carolina	North Carolina 811	(800) 632-4949	www.nc811.org
Ohio	Ohio Utilities Protection Service	(800) 362-2764	www.oups.org
Pennsylvania	Pennsylvania One Call System, Inc.	(800) 242-1776	www.pa1call.org
South Carolina	South Carolina 811 / PUPS	(888) 721-7877	www.sc811.com
Tennessee	Tennessee 811	(800) 351-1111	www.tnonecall.com OR www.tennessee811.com
Texas	Texas 811 OR Lone Star Notification Center	(800) 344-8377 (800) 669-8344	www.texas811.org www.lsnconecall.com
Wisconsin	Wisconsin Diggers Hotline	(800) 242-8511	www.diggershotline.com

811 Know what's below. Call before you dig.

PROJECT INFORMATION & LOCATION

BUCKEYE PARTNERS, L.P.

Project Title

Project Address | City | State | Zip Code

Latitude | Longitude | Municipality | County

APPLICANT INFORMATION:

Name and Title of Applicant | Company | Phone Number

Address | City | State | Zip Code

Email address | Fax Number

LEGAL NAME OF INDIVIDUAL, COMPANY, OR ENTITY TO WHICH PERMISSION WILL BE GRANTED:

Name | Name and Title of authorized signatory for company or entity

Address | City | State | Zip Code

PROJECT INVOLVES THE FOLLOWING IMPACTS TO BUCKEYE'S FACILITIES (CHECK ALL THAT APPLY):

- ☐ Cover, grading, and drainage pattern changes
- ☐ Aboveground and/or underground structures
- ☐ Road, driveway, sidewalks, and parking areas
- ☐ Utility crossings including gas, water (steam), sewer (storm & sanitary)
- ☐ Electrical, fiber-optic, and communications cables
- ☐ Temporary access roads for the crossing of heavy/construction equipment
- ☐ Railroad crossings
- ☐ Farming and field tile
- ☐ Construction-induced vibrations
- ☐ Blasting operations (attach BLASTING PLAN)
- ☐ Seismic vibrating operations (attach SEISMIC VIBRATING PLAN)
- ☐ Exposure of the pipeline (attach SUPPORT PLAN)
- ☐ Boring, drilling, or tunneling near the pipeline (attach DRILL PLAN)
- ☐ Other: _____

Page 1 of 3

APPLICATION MUST CONTAIN THE FOLLOWING:

☐ *Completed and Signed "Application for Design Plan Submission and Encroachment Review" Form*

☐ *Encroachment Application Fee** (see guidelines below)*

☐ *Design Plans (2 copies), depicting the following:*

☐ Field-verified location of Buckeye pipeline(s) location

_____	_____/_____/_____	_____
Name of Buckeye Employee	**Date of Pipeline Locating Activity**	**Design One Call No.**

☐ Field-verified depth of Buckeye pipeline(s) along all proposed road or utility crossings, drainage channels, and all other areas of proposed grade change within the pipeline right-of-way (attach a copy of any field data provided by Buckeye Representative)

_____	_____/_____/_____
Name of Buckeye Employee	**Date of Pipeline Depth Investigation**

☐ Buckeye pipeline(s) labeled as "___-inch High Pressure Petroleum Products Pipeline"

☐ Buckeye included on Utilities List, and Local Contact and phone number on plans

☐ Buckeye Pipeline(s) highlighted in yellow. List all plan sheets on which Buckeye facilities are located:

_____

☐ Location of ground disturbances (blasting, seismic testing, pile driving, jackhammering, etc. within 1,500 feet of Buckeye pipeline(s)

☐ Proposed location(s) where construction equipment will cross the pipeline right-of-way

☐ Structure setback distances from the pipeline right-of-way and from the nearest pipeline

☐ Proposed landscaping within 25 feet of either side of the pipeline(s)

☐ Any permanent fencing that will limit/encumber Buckeye's access to the pipeline right-of-way

☐ If the drainage pattern will be altered in any way over the Buckeye pipeline(s), a drainage plan that identifies new flow paths and all inlet/outfall/collection points

☐ Right-of-Way Use Restrictions specification included as part of final design plan (can be done by adding a drawing sheet to plans and appending (cut and paste) the specification onto this sheet.

For property improvements that involve grade/pavement alterations, road work (new construction or improvements of existing), utility crossings (buried and overhead), or other subsurface or on-surface structure installations within Buckeye's right-of-way:

☐ Separate plan and profile drawing of Buckeye pipeline(s) for existing and proposed conditions.

☐ Subgrade details that show materials and thickness of each paving layer/course.

☐ Amount of existing cover that will be removed or new cover added over the pipeline(s), and proposed final grade amount of cover over the pipeline(s).

☐ Clearances between Buckeye's pipeline(s) and any existing and new (buried or overhead) utilities that cross the pipeline right-of-way.

☐ Show the clearances between Buckeye's pipeline(s) and each proposed substructure at the two closest reference points.

☐ For any utility to be installed via boring, drilling, or tunneling, include a detailed procedure of this work with your design plans. Note: "Blind" boring is not permitted. Buckeye's pipeline(s) must be exposed during the bore operation to ensure that the bore head crosses safely underneath the pipeline(s).

☐ Indicate any areas of disturbance or other work that will require Buckeye's pipeline(s) to be exposed in order to perform your work.

☐ *Supplemental Plan Information (as applicable)*

☐ Blasting Vibrating Plan

☐ Seismic Vibrating Plan

☐ Support Plan

☐ Drill Plan

SUBMIT PLANS TO:

Buckeye Partners, L.P.
ROW Department
Attn: Encroachment Review
5 Tek Park, 9999 Hamilton Blvd.
Breinigsville, PA 18031

OR

bauman@buckeye.com
With subject line reading
"Encroachment Review Application"

Buckeye requires a minimum of 60 days for technical review upon receipt of complete application with all relevant fees and complete and accurate design plans. Submission of plans electronically to the above email address is encouraged and acceptable, but signed application and fees must follow by mail.

Relocation or Modification – Should the initial encroachment review result in a determination that Buckeye facilities must be relocated or modified because of the request, additional review time may be required. A Feasibility Study will be performed to prepare a scope of work, cost estimate, schedule and project plan; the cost of which will be borne by a party or parties other than Buckeye and must be paid before the relocation or modification will commence. A Technical Services Agreement between Buckeye and the responsible entity will be prepared to specify the duties of each party. A Letter of No Objection or Encroachment Agreement will be issued which will authorize the construction of the proposed encroachment under certain terms and conditions.

Permission / Notification - A fully-executed Letter of No Objection, Encroachment Agreement or Technical Services Agreement is needed prior to construction. Buckeye must be notified 10-days prior to construction to allow for the scheduling of a Buckeye representative to be present. It is also the encroaching entity's responsibility to notify the owners of any other pipelines, communication lines, other third party property or facility owners located within the proposed project area and to secure any additional needed rights from these parties where Buckeye's rights are limited.

APPLICATION FEES: A non-refundable Encroachment Application Fee must accompany all encroachment review requests for private development within Buckeye's right-of-way. Any request submitted without the required application fee, or that does not contain the specified information in the format requested on the application, may not be considered. Remit payment by check payable to: *Buckeye Partners, L.P.* Buckeye may require a developer to enter an agreement to pay any outside consultant costs that Buckeye deems necessary for a complete review of the proposed encroachment(s).

Initial Encroachment Application Fee is $2,500. Following initial review, all necessary plan resubmissions until plan approval shall be accompanied by a **Resubmission Fee** of **$750**.

Small Project Application Fee is $500. This reduced fee is reserved solely for single utility line service crossings or requests for installation of a fence or other residential-related improvement within Buckeye's pipeline easement.

I hereby authorize Buckeye to contact the Engineer/Survey firm which prepared the drawings, survey and attachments.

I certify that the information provided is accurate and I realize that incomplete information may delay processing or invalidate this application.

Signature of Applicant

By: _____

Name: _____

Title: _____

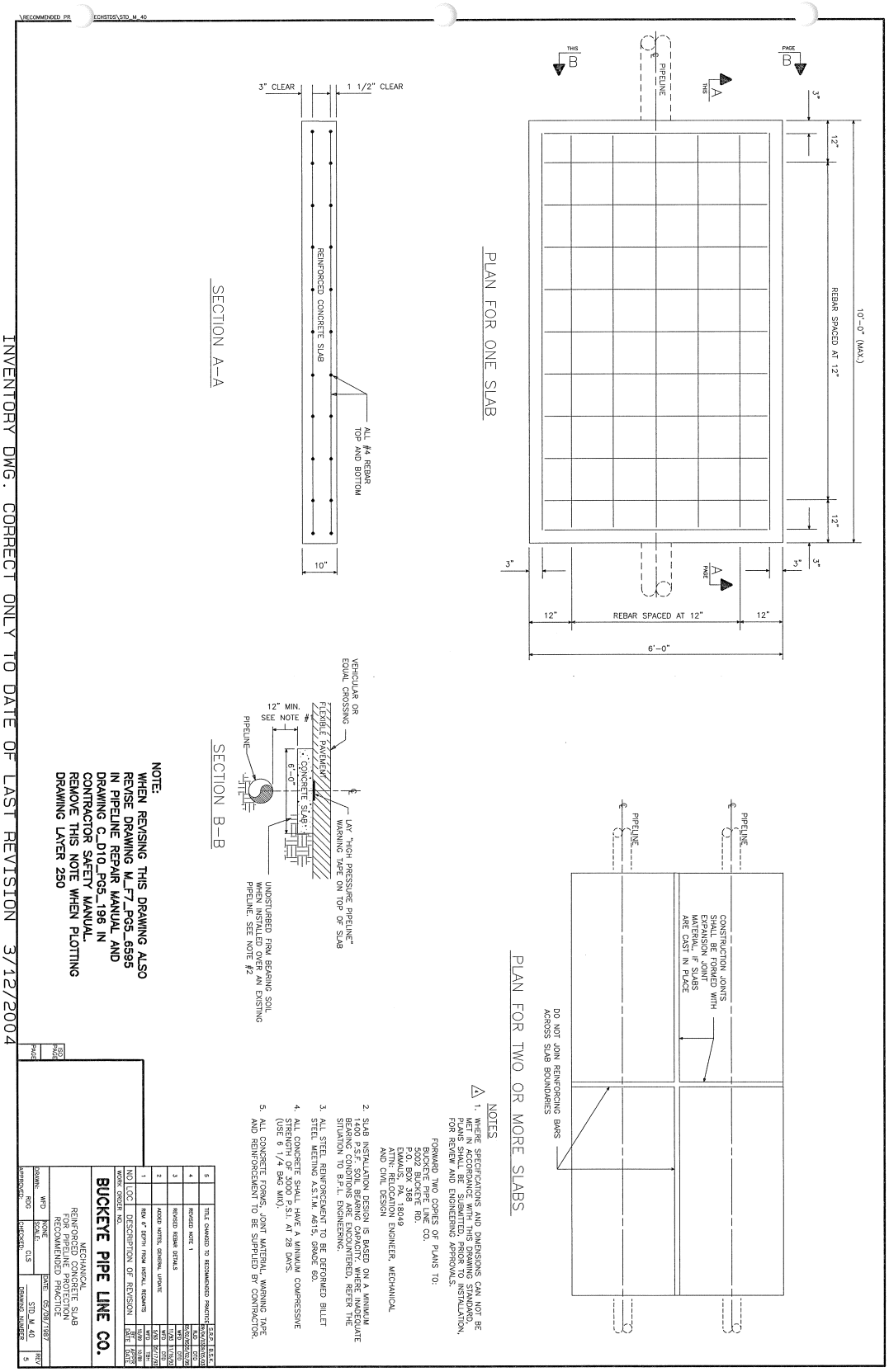
Date: _____

OFFICIAL USE ONLY

DATE REC'D: _____

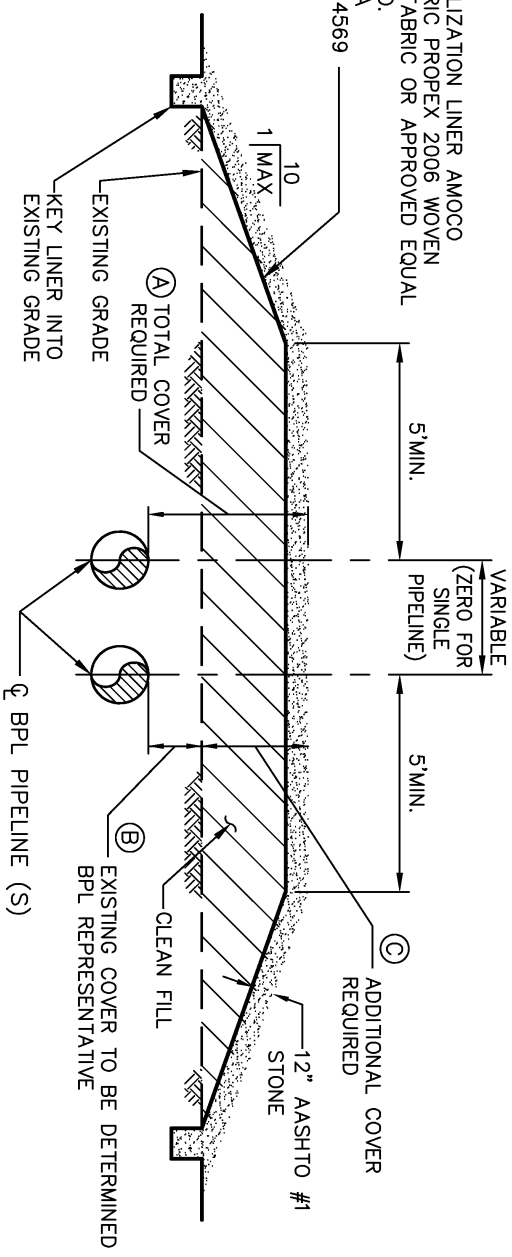
ENCROACHMENT
REVIEW NO.: _____

Page 3 of 3


PLAN FOR ONE SLAB
10'-0" (MAX.)
REBAR SPACED AT 12"
REBAR SPACED AT 12"
6'-0"
12"
3"
PIPELINE
PAGE
THIS
SECTION A-A
3" CLEAR
1 1/2" CLEAR
REINFORCED CONCRETE SLAB
ALL #4 REBAR TOP AND BOTTOM
10"
SECTION B-B
VEHICULAR OR EQUAL CROSSING
FLEXIBLE PAVEMENT
CONCRETE SLAB
6'-0"
12" MIN. SEE NOTE #
PIPELINE
LAY "HIGH PRESSURE PIPELINE" WARNING TAPE ON TOP OF SLAB
UNDISTURBED FIRM BEARING SOIL WHEN INSTALLED OVER AN EXISTING PIPELINE SEE NOTE #2
PLAN FOR TWO OR MORE SLABS
CONSTRUCTION JOINTS SHALL BE FORMED WITH EXPANSION JOINT MATERIAL IF SLABS ARE CAST IN PLACE
DO NOT JOIN REINFORCING BARS ACROSS SLAB BOUNDARIES
NOTES
1. WHERE SPECIFICATIONS AND DIMENSIONS CAN NOT BE MET IN ACCORDANCE WITH THIS DRAWING STANDARD, PLANS SHALL BE SUBMITTED, PRIOR TO INSTALLATION, FOR REVIEW AND ENGINEERING APPROVALS.
FORWARD TWO COPIES OF PLANS TO:
BUCKEYE PIPE LINE CO.
5002 BUCKEYE RD.
P.O. BOX 368
EMMAUS, PA. 18049
ATTN: RELOCATION ENGINEER, MECHANICAL AND CIVIL DESIGN
2. SLAB INSTALLATION DESIGN IS BASED ON A MINIMUM 1500 PSF ASSUMED BEARING CAPACITY. WHERE INADEQUATE BEARING CONDITIONS ARE ENCOUNTERED, REFER THE SITUATION TO B.P.L. ENGINEERING.
3. ALL STEEL REINFORCEMENT TO BE DEFORMED BILLET STEEL MEETING A.S.T.M. A615, GRADE 60.
4. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 P.S.I. AT 28 DAYS. (USE 6 1/4 BAG MIX).
5. ALL CONCRETE FORMS, JOINT MATERIAL, WARNING TAPE AND REINFORCEMENT TO BE SUPPLIED BY CONTRACTOR.
NOTE:
WHEN REVISING THIS DRAWING ALSO REVISE DRAWING M_F7_PG5_6595 IN PIPELINE REPAIR MANUAL AND DRAWING C_D10_PG5_196 IN CONTRACTOR SAFETY MANUAL. REMOVE THIS NOTE WHEN PLOTTING DRAWING LAYER 250
NO. LOC. DESCRIPTION OF REVISION BY DATE
WORK ORDER NO.
5 TITLE CHANGED TO RECOMMENDED PRACTICE S.S.P. 03/09/00
4 REVISED NOTE 1 B.S.K. 02/08/00
3 REVISED REBAR DETAILS WFD 11/10/93
2 ADDED NOTES, GENERAL UPDATE KVB 07/17/91
1 REM. 6" DEPTH FROM INSTALL REQMNTS WFD 10/ 8/87
BUCKEYE PIPE LINE CO.
MECHANICAL
REINFORCED CONCRETE SLAB
FOR PIPELINE PROTECTION
RECOMMENDED PRACTICE
DRAWN: WFD
SCALE: NONE
DATE: 05/08/1987
DRAWING NUMBER: STD_M_40
REV: 5
DESIGNED: RDG
CHECKED: CLS
SUPERVISOR:
ISO PAGE
PAGE
INVENTORY DWG. CORRECT ONLY TO DATE OF LAST REVISION 3/12/2004

Project/Inquiry:	Loading:	Date:
System:	Pipe Data:	Revision:

GEOTEXTILE STABILIZATION LINER AMOCO
ENGINEERING FABRIC PROPEX 2006 WOVEN
POLYPROPYLENE FABRIC OR APPROVED EQUAL
AMOCO FABRIC CO.
ATLANTA, GEORGIA
PHONE: (770)944-4569



TEMPORARY (WET CONDITIONS) CONSTRUCTION RAMP
OVER BPL PIPELINE (S)
NO SCALE

NOTES:

1. RAMP SHALL BE 15 FOOT PLUS/MINUS WIDE WITH SIDES TAPERED ON A MINIMUM 1:1 SLOPE.
2. IF DRY CONDITIONS PREVAIL AT CROSSING SITE LINER AND STONE CAN BE REPLACED WITH FILL MATERIAL.

* Indicates item supplied by Buckeye Pipe Line Company.

Legend & Notes:

A. Required pipeline cover must be a minimum of: * feet
B. Existing pipeline cover is currently: TBD feet
C. Earthen ramp height above existing grade: * feet

Buckeye Pipe Line Company
Earthen Ramp Detail

Attachment 7: Blasting Plan Submission Form

INFORMATION SECTION

Blasting Contractor -

Company Name: _____

Phone: _____

Email Address: _____

Contact Person: _____

Contracted by -

Company Name: _____

Address: _____

_____

Contact Person: _____

Project Name: _____

Address: _____

*Latitude: _____

*Longitude: _____

Location and Distance (in feet) to Nearest Buckeye Pipeline: _____

_____

Date of Blasting: _____

EXPLOSIVES SECTION

Type of Explosives: _____

Max. Charge / Hole (lbs): _____

Charge Delay (ms): _____

Charge Weight / Delay (lbs): _____

Max. Depth of Charge (ft): _____

Max. Diameter of Charge (in): _____

Calculated Particle Velocity at a point -

Depth of Blast Area (ft): _____

Depth of Overburden (ft): _____

Type of Rock to be Blasted: _____

Density of Rock (lbs/cu-ft): _____

300 feet from pipeline (in/sec): _____

200 feet from pipeline (in/sec): _____

100 feet from pipeline (in/sec): _____

Directly above pipeline (in/sec): _____

ATTACHMENT CHECKLIST

- ☐ Drilling/Blasting Pattern Sketch - include all depths, measurements, and delay patterns relative to Buckeye facility involved and each charge.
- ☐ State Approval Letter
- ☐ Blasting Contractor's Qualifications
- ☐ Blasting Contractor's Insurance Certificate
- ☐ Blasting Contractor's Safety Plan

OMMISSION OF ANY INFORMATION REQUESTED ABOVE WILL DELAY YOUR BLASTING PLAN REVIEW

Buckeye requires a minimum of 14 days for technical review upon receipt of complete and accurate blasting plans

Attachment 8: Excavation Safety Checklist

195 F-09, FORM A – EXCAVATION SAFETY CHECKLIST

The information noted on this form is intended to communicate general information about our pipeline(s) and is not intended to be solely relied upon by any party for the purpose of excavation or any similar purpose.

By law, to enable all participating utilities time to mark their facilities, the **One Call Center** in your state requires notification by calling 811 prior to any excavation. Buckeye Partners, L.P. is a member of this One Call enterprise and will automatically be notified through this system. In addition, a Buckeye inspector will perform and/or review with the excavator representative the applicable checklist items below.

Pipeline Locate Activity:

☐ If plans are available, requested a copy of the written project plans and drawings for review with the excavator and/or engineer. Had the excavator and/or engineer explain the extent of the work area, location and depth of the excavation, type of proposed utilities, location of proposed utilities, number of utility crossings, etc.

☐ Established the pipeline(s) location and marked the line(s) per state One Call requirements throughout the entire work area.

☐ Photographed all established pipeline markings throughout the work area.

Communication with the Excavator and/or Engineer:

☐ **The excavator and/or engineer was advised that a Buckeye inspector must:**

- **Monitor the excavation site daily when work is performed within 25 feet of a Buckeye pipeline.**
- **Observe continuously all excavation and backfill activity performed within 10 feet of a Buckeye pipeline or during the installation of any utility across a Buckeye pipeline facility.**
- **In addition, the excavator was instructed to call 800-331-4115 if they were ready to excavate within either above distance of a Buckeye pipeline and a Buckeye inspector was not present. When called a Buckeye inspector will be sent to perform the inspection, which is free of charge.**

☐ The excavator was advised that only backhoes or trackhoes with a steel plate welded across the teeth of the bucket are permitted to be used during excavation work around a Buckeye pipeline.

☐ The excavator was advised that the Buckeye inspector is required by law to perform an external inspection of any Buckeye pipeline exposed during excavation activity. The excavator understands that he/she is responsible to provide an OSHA compliant excavation, allowing the Buckeye inspector safe ingress and egress to examine our exposed pipeline.

☐ Walked through the work area with the excavator and communicated the locations of all Buckeye pipelines in the planned work area.

☐ Discussed the number of pipelines, pipe size(s), approximate pressures, approximate depths, excavation tolerance zones, hand digging requirements, and the hazards and characteristics of product(s) in the pipeline system(s) located in the planned work area.

☐ The excavator was advised to call the One Call Center 811 or contact Buckeye, if the Buckeye markings are destroyed or need to be refreshed in the planned work area. This service is provided free of charge.

☐ The excavator was advised that before any exposed Buckeye pipeline can be backfilled, the Buckeye inspector will direct the placement of an orange warning mesh over the pipeline.

☐ The excavator was advised that **any contact** with the pipeline, pipeline coating, test station wiring, or anode beds **must be reported to Buckeye prior to backfilling the excavation** to permit further inspection of the damage to assure continued safe pipeline operations.

☐ The excavator was advised that failure to comply with the conditions outlined above would result in Buckeye requiring the excavator to expose the pipeline again to allow an examination of the pipeline at the excavator's expense. If damage to the pipeline is discovered, Buckeye may seek monetary compensation for all repair costs. Buckeye may also report this activity to all concerned parties (State One Call Center, Regulatory Agencies, Principal Contractor, Excavator's Insurance Company, etc.).

If you are unable to reach the representative designated below, or **in case of an emergency,** request assistance as follows:
For excavation activities in CT, FL, IL, IA, IN, MA, ME, MI, MO, NJ, NY, OH, PA, SC, and WI, please call 1-800-331-4115.
For excavation activities in LA, NV, TN, TX, and Southern California, please call 1-866-514-8380.
For excavation activities in Northern California, please call 1-800-307-1107.

One Call Ticket:		**Line Segments:**		
Work Order:		**Mile Posts:**		
Nearest Street				

Buckeye Information		**Property Owner / Excavator /Engineer**	
Date:		**Name:**	
Name:		**Phone:**	
Cell Phone:		**Signature:**	