MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

CONTRACT DOCUMENTS

CONTRACT 2017.03

BRIDGE REPLACEMENT
MAXWELL ROAD UNDERPASS
MILE 90.0

NOTICE TO CONTACTORS

PROPOSAL

CONTRACT AGREEMENT

CONTRACT BOND

FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT

SPECIFICATIONS

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

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

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

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MAINE TURNPIKE AUTHORITY

NOTICE TO CONTRACTORS

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

CONTRACT 2017.03

BRIDGE REPLACEMENT
MAXWELL ROAD UNDERPASS
MILE 90.0

at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, ME, until 11:00 a.m., prevailing time as determined by the Authority on December 8, 2016 at which time and place the Proposals will be publicly opened and read. Bids will be accepted from Contractors **prequalified** by the Maine Department of Transportation for Bridge Construction Projects. All other bids may be rejected. This Project includes a wage determination developed by the State of Maine Department of Labor.

The Project consists of highway and bridge work required to replace the existing one lane Maxwell Road bridge over the Maine Turnpike in the Town of Sabattus, Maine. The work includes clearing, grading, drainage, base, pavement, guardrail, structural concrete, concrete deck, fabrication and erection of steel beams, steel bridge rails, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications.

Plans and Contract Documents may be examined by prospective Bidders weekdays between 8:00 a.m. and 4:30 p.m. at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine. **The full size Plans** and Contract Documents may be obtained from the Authority upon payment of One Hundred ($125.00) 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 Fifty ($75.00) Dollars for each set, which payment will not be returned. Checks shall be made payable to: Maine Turnpike Authority. The Plans and Contract Documents may also be downloaded from a link on our website at http://www.maineturnpike.com/project-and-planning/Construction-Contracts.aspx.

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

All work shall be governed by the Specifications entitled "State of Maine, Department of Transportation, Standard Specifications, Revision of November 2014", "Standard Details,

Revision of November 2014" and "Best Management Practices for Erosion and Sediment Control", latest issue. Copies and recent updates to these publications can be downloaded at: http://www.maine.gov/mdot/contractors/publications/ .

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

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

A pre-bid conference will be held on November 29, 2016 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 2017.03

BRIDGE REPLACEMENT
MAXWELL ROAD UNDERPASS
MILE 90.0

MAINE TURNPIKE AUTHORITY

PROPOSAL

CONTRACT 2017.03

BRIDGE REPLACEMENT
MAXWELL ROAD UNDERPASS
MILE 90.0

TO MAINE TURNPIKE AUTHORITY:

The Project consists of highway and bridge work required to replace the existing one lane Maxwell Road bridge over the Maine Turnpike in the Town of Sabattus, Maine. The work includes clearing, grading, drainage, base, pavement, guardrail, structural concrete, concrete deck, fabrication and erection of steel beams, steel bridge rails, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications.

This Work will be done under a Contract known as Contract 2017.03 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. 2017.03
BRIDGE REPLACEMENT
MAXWELL ROAD UNDERPASS
MILE 90.0

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
201.11	Clearing	Acre	0.75				
202.19	Removing Existing Bridge	Lump Sum	1				
202.202	Removing Pavement Surface	Square Yard	340				
203.20	Common Excavation	Cubic Yard	450				
203.24	Common Borrow	Cubic Yard	4,100				
203.25	Granular Borrow	Cubic Yard	610				
206.082	Structural Earth Excavation - Major Structures, Plan Quantity	Cubic Yard	630				
304.10	Aggregate Subbase Course - Gravel	Cubic Yard	1,100				
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	Ton	280				
403.209	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals)	Ton	10				
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size Base and Intermediate Base Course	Ton	240				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
409.15	Bituminous Tack Coat, Applied	Gallon	120				
501.231	Dynamic Loading Test	Each	2				
501.54	Steel H-beam Piles 117 lb/ft, delivered	Linear Foot	316				
501.541	Steel H-beam Piles 117 lb/ft, in place	Linear Foot	316				
501.90	Pile Tips	Each	8				
501.91	Pile Splices	Each	8				
501.92	Pile Driving Equipment Mobilization	Lump Sum	1				
502.219	Structural Concrete, Abutments and Retaining Walls	Lump Sum	1				
502.239	Structural Concrete, Pier	Lump Sum	1				
502.26	Structural Concrete Roadway and Sidewalk Slab on Steel Bridges	Lump Sum	1				
502.31	Structural Concrete, Approach Slab	Lump Sum	1				
502.49	Structural Concrete Curbs and Sidewalks	Lump Sum	1				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
503.14	Epoxy-Coated Reinforcing Steel, Fabricated and Delivered	Pound	95,400				
503.15	Epoxy-Coated Reinforcing Steel, Placing	Pound	95,400				
504.702	Structural steel, fabricated and delivered, welded	Lump Sum	1				
504.71	Structural steel erection	Lump Sum	1				
505.08	Shear Connectors	Lump Sum	1				
506.9102	Zinc Rich Coating System (Shop Applied)	Lump Sum	1				
507.0821	Steel Bridge Railing, 3 Bar	Lump Sum	1				
508.14	High Performance Waterproofing Membrane	Lump Sum	1				
508.15	Membrane Waterproofing	Lump Sum	1				
511.091	Temporary Earth Support Systems	Lump Sum	1				
512.081	French Drains	Lump Sum	1				
514.06	Curing Box for Concrete Cylinders	Each	1				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
515.202	Clear Protective Coating for Concrete Surfaces	Square Yard	510				
520.23	Asphaltic Plug Joint	Linear Foot	56				
523.52	Bearing Installation	Each	4				
523.5401	Laminated Elastomeric Bearings, Fixed	Each	4				
524.40	Protective Shielding - Steel Girders	Square Yard	765				
526.306	Temporary Concrete Barrier, Type I - Supplied by Authority	Lump Sum	1				
527.341	Work Zone Crash Cushions - TL-3	Unit	2				
603.152	12 inch HDPE Pipe Liner	Linear Foot	320				
603.159	12 inch Culvert Pipe Option III	Linear Foot	35				
603.28	Concrete Collar	Each	1				
606.1728	W-Beam to 3-Bar Bridge Rail Transition	Each	4				
606.231	Guardrail Type 3c -15 ft radius and less	Linear Foot	25				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
606.232	Guardrail Type 3c - over 15 ft radius	Linear Foot	62.5				
606.233	Guardrail Type 3c - Single Rail, 7 Foot Posts	Linear Foot	775				
606.265	Terminal End - Single Rail - Galvanized Steel	Each	2				
606.356	Underdrain Delineator Post	Each	8				
606.3561	Delineator Post - Remove and Reset	Each	10				
606.3605	Guardrail - Remove, Modify, and Reset Single Rail	Linear Foot	540				
606.47	Single Wood Post	Each	1				
606.81	Tangent Guardrail Terminal - Energy Absorbing	Each	2				
607.09	Woven Wire Fence - Metal Posts	Linear Foot	380				
607.17	Chain Link Fence - 6 Foot	Linear Foot	500				
607.23	Chain Link Fence Gate	Each	2				
607.32	Bracing Assembly Type I - Metal Posts	Each	12				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
607.33	Bracing Assembly Type II - Metal Posts	Each	10				
607.431	Snow Fence	Linear Foot	200				
609.11	Vertical Curb Type 1	Linear Foot	120				
610.08	Plan Riprap	Cubic Yard	150				
610.18	Stone Ditch Protection	Cubic Yard	110				
613.319	Erosion Control Blanket	Square Yard	4,450				
615.07	Loam	Cubic Yard	520				
618.141	Seeding Method Number 3	Unit	42				
619.1201	Mulch, Plan Quantity	Unit	42				
619.1202	Temporary Mulch	Lump Sum	1				
619.1401	Erosion Control Mix	Cubic Yard	43				
620.58	Erosion Control Geotextile	Square Yard	550				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
627.73	Temporary 6 Inch Pavement Marking Tape	Linear Foot	1,450				
627.731	Temporary 6 Inch Black Pavement Marking Tape	Linear Foot	840				
629.05	Hand Labor, Straight Time	Hour	100				
631.10	Air Compressor (including operator)	Hour	20				
631.11	Air Tool (including operator)	Hour	40				
631.12	All Purpose Excavator (including operator)	Hour	50				
631.171	Truck - small (including operator)	Hour	30				
631.172	Truck - large (including operator)	Hour	40				
631.36	Foreman	Hour	50				
639.19	Field Office, Type B	Each	1				
645.106	Demount Regulatory, Warning, Confirmation and Route Marker Assembly Sign	Each	5				
645.108	Demount Pole	Each	5				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
645.116	Reinstall Regulatory, Warning, Confirmation and Route Marker Assembly Sign	Each	1				
645.118	Reinstall Pole	Each	1				
645.272	Regulatory, Warning, and Bridge Number Signs, Type I - Supplied by Authority	Each	4				
652.30	Flashing Arrow	Each	2				
652.312	Type III Barricades	Each	6				
652.33	Drum	Each	110				
652.34	Cone	Each	20				
652.35	Construction Signs	Square Foot	1,300				
652.361	Maintenance of Traffic Control Devices	Lump Sum	1				
652.38	Flaggers	Hour	300				
652.41	Portable Changeable Message Sign	Each	2				
652.45	Truck Mounted Attenuator	Calendar Day	100				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
656.50	Baled Hay, in place	Each	20				
656.60	Temporary Berms	Linear Foot	1,100				
656.62	Temporary Slope Drains	Linear Foot	340				
656.632	30 inch Temporary Silt Fence	Linear Foot	1,650				
659.10	Mobilization	Lump Sum	1				
					TOTAL:		

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

_____

_____

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

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

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

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

_____ *(SEAL)*

_____ *(SEAL)*

Affix Corporate Seal
or Power of Attorney
Where Applicable

_____ *(SEAL)*

By: _____

Its: _____

Information below to be typed or printed where applicable:

INDIVIDUAL:

_____	_____
(Name)	(Address)

PARTNERSHIP - Name and Address of General Partners:

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

INCORPORATED COMPANY:

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

MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

YORK TO AUGUSTA

CONTRACT AGREEMENT

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

_____

herein termed the "Contractor":

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

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

_____

_____

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

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

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

AUTHORITY -

MAINE TURNPIKE AUTHORITY

By: _____

Title: CHAIRMAN

Date of Signature: _____

ATTEST:

_____
Secretary

CONTRACTOR -

_____
CONTRACTOR

By: _____

Title: _____

Date of Signature: _____

WITNESS:

_____

CONTRACT BOND

KNOW ALL MEN BY THESE PRESENTS that _____

of _____ in the County of _____ and State of _____

as Principal, and _____ a Corporation duly organized under the

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

_____

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

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

Signed and sealed this _____ day of _____, A.D., 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 – SUPPLEMENTAL SPECIFICATIONS

(Rev. November 10, 2016)

Maine Turnpike Authority
2016 Supplemental Specifications

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INTRODUCTION

This document shall be known as the Maine Turnpike Authority's Supplemental Specifications 2016 Edition. This document consists of additions and alterations to the MaineDOT 's Standard Specifications November 2014 Edition, as detailed below. Sections from the MaineDOT November, 2014 standard specifications which are not altered herein are incorporated without change. References to "the Department" contained therein shall refer to "the Authority" and references to Department personnel shall apply to equivalent personnel at the Maine Turnpike Authority.

Maine Turnpike Authority Special Provisions shall be issued for all Contracts and shall amend or add to both these Maine Turnpike Authority Supplemental Specifications and the MaineDOT 2014 Standard Specifications. MaineDOT Special Provisions or revisions to the November 2014 specifications are not incorporated herein unless specifically stated.

DIVISION 100 - GENERAL CONDITIONS

100.1 Replacement of Former Standard Specifications and Details:
Division 100 of the MaineDOT's Standard Specifications November, 2014 is completely replaced by the General Conditions contained herein.

SECTION 101 - CONTRACT INTERPRETATION

Scope of Section This Section consists of abbreviations, definitions, and general rules of interpretation.

101.1 Abbreviations - Abbreviations are defined in the following list. Abbreviations not defined in this Section or otherwise in the Contract shall have the meaning that is commonly accepted in the Engineering and construction industry.

AAN	American Association of Nurserymen, Incorporated
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ADA	Americans with Disabilities Act
AGC	Associated General Contractors of America
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
ANLA	American Nursery & Landscape Association
ANSI	American National Standards Institute
ARA	American Railway Association
AREMA	American Railway Engineering and Maintenance-of-way Association
ARTBA	American Road & Transportation Builders Association
ASCE	American Society of Civil Engineers
ASD	Allowable Stress Design

ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATSSA	American Traffic Safety Services Association
AWWA	American Water Works Association
AWPA	American Wood Preservers Association
AWS	American Welding Society
BMP	MDOT's “Best Management Practices for Erosion and Sediment Control"
CFR	Code of Federal Regulations
DBE	Disadvantaged Business Enterprise
DREW	Daily Reports of Extra Work
DRB	Dispute Review Board
EIA	Electronic Industries Association
EEO	Equal Employment Opportunity
EMS	Emergency Medical Service
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FSS	Federal Specifications and Standards, General Services Administration
IES	Illuminating Engineering Society
IMSA	International Municipal Signal Association
IPCEA	Insulated Power Cable Engineers Association
ISEE	International Society of Explosives Engineers
ISO	Insurance Services Office
ITE	Institute of Transportation Engineers
LFD	Load Factor Design
LRFD	Load and Resistance Factor Design
LURC	Land Use Regulation Commission - Maine
MCTCB	Maine Concrete Technician Certification Board
MDEP	Maine Department of Environmental Protection
MDOT	Maine Department of Transportation
MIL	Military Specifications
MRSA	Maine Revised Statutes Annotated
MUTCD	Manual on Uniform Traffic Control Devices
NBS	National Bureau of Standards
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NEPCOAT	Northeast Protective Coating Committee
NESC	National Electric Safety Code
NETTCP	New England Transportation Technician Certification Program
NHS	National Highway System
NICET	National Institute for Certification in Engineering Technologies
OJT	On-The-Job Training
OSHA	Occupational Safety and Health Administration
PCI	Precast/Prestressed Concrete Institute

PIN	Project Identification Numbers
QA	Quality Assurance
QC	Quality Control
QCP	Quality Control Plan
QPL	Qualified Products List
RFI	Request for Information
SAE	Society of Automotive Engineers
SEWPCP	Soil Erosion and Water Pollution Control Plan
SHA	State Highway Agency (as used by FHWA, meaning MDOT)
SPCCP	Spill Prevention Control and Countermeasure Plan
SSPC	Society for Protective Coatings
TAPPI	Technical Association of Pulp and Paper Industry
TCP	Traffic Control Plan
USC	United States Code
USDA	United States Department of Agriculture
UL	Underwriter's Laboratory
VECP	Value Engineering Change Proposal

101.2 Definitions - Words, terms, and phrases are defined below. Capitalized words in this Standard Specifications book are defined under this Section. Words, terms, or phrases that are not defined in this Section 101.2 or otherwise in the Contract shall have the meaning commonly accepted in the engineering and construction industry.

Acceptable Work: Work that Conforms or Substantially Conforms to the Contract and is satisfactory to the Authority.

Acceptance: Consideration of operations, inspections, samples, tests, certifications, proper QCP implementation, and end product properties to determine whether the product will be accepted for payment, including any adjustments to compensation as provided in the Contract.

Acceptance Test: Test utilized by the Authority to evaluate the quality of a Material or product.

Actual Costs: Direct, Project-specific, costs actually incurred by the Contractor in the performance of Work. Actual Costs consist of labor, Material, Equipment, and administrative overhead. For related provisions, see Section 109.7, Equitable Adjustments to Compensation, and Time and Section 109.7.2 – Basis of Payment

Addendum: See Bid Amendment.

Aggregate: Inert Material such as sand, gravel, broken stone, crushed stone, or a combination of any of these Materials.

Agreement: Agreement means Contract Agreement.

Apparent Low Bidder: A Bidder that submits the lowest apparently responsive Bid. The Apparent Low Bidder may not be Awarded the Contract if a) the Bid is later found to be non-responsive in accordance with Section 102.11, b) the Bidder is found to be not responsible, c) the Bidder fails to comply with all applicable pre-Award Conditions, other pre-execution requirements of the Contract, or d) the Authority chooses not to Award a Contract.

Apparent Successful Bidder: The Bidder with the lowest responsive Bid as determined by the Authority. A responsive responsible Bidder, usually the Apparent Low Bidder, that is Awarded the Contract. The Authority may not execute the Contract with the Apparent Successful Bidder if a) the Apparent Successful Bidder fails to comply with all applicable pre-Award conditions or other pre-execution requirements of the Contract or b) if the Authority chooses not to Award a Contract.

Authority: The Maine Turnpike Authority, a body corporate and politic duly created 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 execution of the Contract by the Authority, conditioned upon the Successful Bidder's performance of all pre-execution requirements of the Bid Documents.

Award Conditions: Pre-Award or pre-execution requirements that the Contractor must meet before Contract Execution including bonding and insurance. For a related provision, see Section 103.5 - Award Conditions.

Bid: The offer by a Bidder on forms prescribed by the Authority to perform the Work in Conformity with all provisions of the Bid Documents for the price(s) set forth.

Bid Amendment: A written change to the Bid Documents issued by the Authority after advertisement and before the Bid Opening.

Bid Bond: A bond furnished with a Bid by a Bidder and its Surety in the amount set forth in the Notice to Contractors or elsewhere in the Bid Documents. The Bid Bond is forfeited if the Apparent Low Bidder fails to enter into a Contract with the Authority.

Bid Contact Person: The person identified in the advertised Notice to Contractors, as the person to whom the Bidder must refer technical or Engineering questions from the time of advertisement through Contract Execution.

Bidder: An individual, firm, corporation, limited liability company, partnership, joint venture, sole proprietorship, or other entity that submits a Bid. Upon Contract Execution, the successful Bidder becomes the Contractor.

Bid Documents: Documents issued by the Authority to solicit Bids from Contractors. Bid Documents generally include the Bid Book, Notice to Contractors, Plans and Specifications (including the Authority's Supplemental Specifications and MaineDOT's Standard

Specifications), Standard Details, Special Provisions, Bidding instructions, and any Bid Amendments issued by the Authority. Documents attached to or referenced in the Bid Documents are part of the Bid Documents. Contrast "Bid Documents" with "Bid Escrow Documentation" as may be defined by Special Provision.

Bid Escrow Documentation: All writings, working papers, computer printouts, charts, schedules of prices, and data compilation that contain or reflect information, quantities, unit costs, data, or calculations used by the Bidder to determine the Bid price, or technical and price proposal in the case of a Design-Build or Best Value Procurement type of Contract, shall be submitted, including but not limited to material relating to the determination and application of:

Design Costs
Equipment rates
Overhead rates and related time schedules
Labor rates
Arithmetic extensions
Subcontractor and Material Supplier Quotations

Any manuals standard to the industry used by the Bidder in determining the Bid are also considered Bid Escrow Documentation. These manuals may be included in the Bid Escrow Documentation by reference and shall show the name and date of the publication and the publisher. Bid Escrow Documentation need not include Bid Documents provided by the Authority to all Bidders.

Bid Guaranty: A bond or other acceptable security specified in the Notice to Contractors or elsewhere in the Bid Documents that is forfeited if the Apparent Low Bidder fails to to enter into a Contract with the Authority. For a related provision, see Section 102.6 - Bid Guaranty.

Bid Opening: The date and precise time by which the Bidder must Deliver its Bid as specified in the Notice to Contractors or any applicable Bid Amendment. For related provisions, see Sections 102.7 - Delivery of Bids and 102.9 - Bid Opening.

Blue Book: The edition of publications entitled "Rental Rate Blue Book for Construction Equipment" or "Rental Rate Blue Book for Older Construction Equipment," as applicable, published by Primedia Information Inc., that was current when the Work being priced was performed.

Bridge: "Bridge" means a structure, including supports, designed principally to carry motor vehicles that is erected over a depression or an obstruction, such as water, a highway or a railway, and has an opening measured along the center of the roadway of more than 20 feet between the undercropping of abutments or spring lines of arches or the extreme ends of openings for multiple boxes. It also includes multiple pipes when the clear distance between openings is less than 1/2 of the smaller contiguous opening.

A. Length The length of a Bridge structure is the overall length measured along the

construction centerline back to back of backwalls of abutments, if present; otherwise end to end of the Bridge floor; but in no case less than the total opening of the structure.

B. Roadway Width The width measured at right angles to the longitudinal centerline of the Bridge between the bottom of curbs or guard timbers or in case of multiple heights of curbs, between the bottoms of the lower risers.

Business Day: Every Calendar Day less Saturdays, Sundays, and Holidays.

Calendar Day: Every day shown on the calendar, beginning at 12:01 a.m. and ending at midnight.

Change Order: See Contract Modification

Chief Engineer: The Maine Turnpike Authority's Director of Engineering.

Closeout Documentation: All documentation required by the Authority to close out the Project in accordance with all applicable contractual, statutory or regulatory requirements. These documents include, but are not necessarily limited to: an acceptable final payment requisition, a lien waiver and indemnity of the Authority against any Subcontractor liens, and certification that all persons or firms supplying work and materials to the project have been paid in full or will be paid in full immediately upon final payment.

Compensable Delay: See Section 109.5.1 - Definitions - Types of Delays.

Completion: Completion occurs when the Contractor has finished all Work pursuant to the Contract, including Delivery of all Closeout Documentation. Completion does not mean Substantial Completion. Unless the context indicates otherwise, Completion also does not mean Completion of Physical Work.

Completion of Physical Work: Completion of Physical Work including punch list items occurs when the Work is complete and has undergone a successful final inspection.

Conduit: A pipe used for receiving and protecting wires or cable.

Conform or Conformity: The performance of an item of Work in strict compliance with all applicable provisions of the Contract. For a related definition, see Substantially Conform.

Construction Easement: A right acquired by the Authority to use or control property, outside of the established Right-of-Way.

Construction Limit Line: A line, usually outside of the Right-of-Way, within which the Contractor may Work and outside of which Work may not be performed without authorization by the Authority.

Contract: All documents affecting the respective rights and responsibilities of the Authority and the Contractor. These documents include, but are not limited to: the Contract Agreement, Project specific proposal Bid Book, the Notice to Contractors, Plans, the Authority's Supplemental Specifications, MaineDOT's Standard Specifications and Standard Details, Special Provisions, Bid Amendments, Contract Modifications, Geotechnical Information, Permits, Bid Escrow Documentation (if any), the Contractor's Bid prices (as corrected mathematically pursuant to Section 103.1.1 - Unit Prices Govern, if necessary), and all documents incorporated by reference.

Contract Bonds: The forms of security approved by the Authority, executed by the Contractor and its Surety or Sureties, guaranteeing performance of the Work, and the payment of all obligations pertaining to the Work. For related provisions, see the definitions of Bid Guaranty, Performance Bond, and Payment Bond.

Contract Completion Time: Length of time allowed under the Contract to complete the Work pursuant to the terms of the Contract.

Contract Completion Date: The required completion date of all Work including punch list items pursuant to the Contract, except the landscape establishment period and warranty work. The Contract Completion Date is usually included in Special Provision 107 and on the Contract Agreement, Offer, & Award form.

Contract Documents: Contract Documents are all documents, whether physically attached or incorporated by reference, which make up the Contract.

Contract Execution: Execution of the Contract by the Executive Director or the Executive Director's authorized agent by signing the Contract Agreement, Offer, & Award form which action, upon written notification to the Contractor, forms a Contract as provided in Section 103.8 - Execution of Contract by Authority.

Contract Modification: A general term describing a formal change to a Contract. Types of Contract Modifications include: change orders, extra work orders, field memos, and supplemental agreements. For a related provision, see Section 109.8 - Contract Modification

Contract Time: See Contract Completion Time and Section 107.1 - Contract Time and Completion Date.

Contractor: After the Authority has executed the Contract by cosigning the Contract Agreement, Offer, & Award form provided in the Bid Documents, previously signed by the successful bidder, the Successful Bidder in a low Bid process or the successful Proposer in a best value type of Contract becomes the Contractor. The Contractor will be the single point of responsibility for all Contract obligations to the Authority. The Contractor shall be an independent Contractor with respect to the Authority and shall not be an employee, agent, or representative of the Authority. Alternatively, "Contractor," with a lower case "c," may mean a

firm engaged in construction Work.

Critical Path: The sequence of activities from the Project start to its Completion having the greatest cumulative elapsed time, thereby determining the minimum time duration of the entire Project. The Critical Path is identified by the sequence of those activities with the least float.

Critical Rock Slopes: Critical rock slopes shall be rock slopes higher than 6 feet with an overburden slope steeper than 3H:1V and all rock slopes greater than 10 feet high.

Culvert: Any structure not defined as a Large Culvert, Bridge, or Minor Span that provides a Drainage opening less than 5 feet, under the Roadway or approaches to the Roadway.

Days: Calendar Days.

Default: See Section 112.1 - Default.

Defects or Defective Work: Work that is unsatisfactory, faulty, or deficient in that it is not in Conformity with the Contract or with prevailing industry standards applicable to the Work at the time of submission of the Bid as determined by the Authority or its agents. For related provisions, see the definition of Acceptable Work and Section - 101.3.1 Meaning of "Approved," Etc.

Delay: To cause to be late. See Section 109.5 - Adjustments for Delay.

Deliver: To cause Receipt by a means set forth in the definition of Received or Receipt.

Department: The Department of Transportation of the State of Maine, as established by 23 MRSA §4205 et seq. for the administration of Highway, Bridge, and other public Works; acting through the Commissioner and his/her duly authorized representatives. For related provisions, see definitions of Project Manager, and Resident.

Design-Build Contract: A contract in which the Contractor is responsible for both design and construction requirements under the contract. In a Design-Build Contract, the Contractor maybe procured through a Best-Value Procurement process using a Request for Proposals and evaluation of submitted Proposals using price as one of several evaluation factors.

Differing Site Conditions: See Section 109.4 - Differing Site Conditions.

Disputes: Disagreements, claims, counterclaims, matters in question, and differences of opinion between the Authority and the Contractor and those Working for or through the Contractor regarding matters related to the Work that arise after Contract Execution. These include, but are not limited to, interpretation of the Contract, compensation and costs, time for performance, and quality.

Drainage: The system of pipes, Drainage ways, ditches, and Structures by which surface or subsurface waters are collected and conducted from the Highway area.

Drawings: See Plans.

Dredge Material (Dredge Spoils): "Dredge materials" means sand, silt, mud, gravel, rock or other sediment or material removed from beneath any surface water. The term, "beneath any surface water" has been interpreted by the MDEP to mean that area that falls beneath the plane bounded by the normal high water line of any stream, river, brook, pond, lake, vernal pool, etc. Note that the entire area of Dredge Material removal could be dry at the time of excavation.

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

Equipment: All machinery, supplies for repair and maintenance of such machinery, tools, and other apparatus necessary or appropriate for Completion of the Work in Conformity with the Contract.

Equitable Adjustment: An adjustment to compensation and time due to a change in the nature or scope of the Work made a part of a Contract by a formal Contract Modification. For a related provision, see Section 109.7 - Equitable Adjustments to Compensation and Time.

Excusable Delay: See Section 109.5.1 - Definitions - Types of Delays.

Executive Director: The chief executive officer of the Maine Turnpike Authority, duly appointed in accordance with 23 MRSA 1964-A.

Extra Work: Work that is outside the scope of the Contract and that the Authority determines is necessary.

Extra Work Order: See Contract Modification

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

Final Acceptance: Acceptance by the Authority for all Work and responsibility for the Project from the Contractor, except for any Contractor warranty obligations.

Force Account Work: Prescribed Work paid on the basis of Actual Costs and additives as set forth in Section 109.7.5 - Force Account Work.

Geometrics: The physical location (horizontally and vertically) and shape of the object under consideration.

Geotechnical Information: 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 Section 104.3.14 - Interpretation and Interpolation.

Haul Road: A private way leading to a public way that is used by the Contractor to move Equipment and Materials related to the Work.

Highway: A general term denoting a public way for purposes of vehicular travel, including the entire area within the Right-of-Way.

Holidays: New Year's Day, Martin Luther King Day, President's Day, Patriot's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day. For a related provision, see Section 107.3.3 - Sundays and Holidays.

The following holidays are extended to include the Holiday Period:

HOLIDAY	HOLIDAY PERIOD
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.
Thanksgiving Day	12:01 a.m. (Midnight) preceding Wednesday to 12:01 p.m. following Monday.

Incentive/Disincentive Payment: An adjustment to the contract price of a predetermined amount for each day the Work is completed ahead of or behind the Contract Time, Contract Completion Date, or some specified intermediary milestone. A disincentive is not a penalty, but an estimate of Authority user and other costs incurred by the people of the State of Maine.

Incidentals: The terms "Incidentals" and "Incidental to the Contract" mean items that are accessory to or incorporated into the Work and that have no separate Pay Item. Unless

otherwise provided in the Contract, the cost of Incidentals shall be included in the Contractor's prices for the Pay Items. There will be no separate payment.

Independent Assurance (IA): Independent assessment of the reliability of test results obtained from Acceptance Testing.

Inexcusable Delay: See Section 109.5.1 - Definitions - Types of Delays.

Inspector: An authorized representative of the Resident assigned to make detailed inspections of the Work to determine compliance with the Contract.

In Stream Work: Any activities conducted in the water (see permits in individual contract documents.)

Laboratory: Unless the context indicates otherwise, the testing laboratory of the Authority or its designee.

Landscape Establishment Period: The period of time commencing at initial Acceptance of each planting and extending for two years, unless otherwise provided in the Contract. For a related provision, see Section 621 - Landscaping.

Landscape Establishment Period Obligations: The obligations of the Contractor and Landscape Subcontractor during the Landscape Establishment Period. Unless otherwise provided in the Contract, these obligations consist of monthly inspection and reporting from March through November of the condition of all plants installed and replacing plants that are not in a healthy, vigorous growing condition. For a related provision, see Section 621 - Landscaping.

Landscape Items: Items starting with the number "621" in the Schedule of Items.

Landscape Subcontractor: The individual or firm performing Landscape Items, generally a Subcontractor.

Lane: A strip of Roadway intended to accommodate a single line of vehicles.

Large Culvert: Any structure not defined as a Culvert or Bridge that provides a Drainage or non-drainage opening under the Roadway or approaches to the Roadway, that is over 5 feet but less than 20 feet in nominal diameter.

Liquidated Damages: An amount due and payable to the Authority by the Contractor, normally realized through a reduction of amounts to be paid to the Contractor. Said amount is calculated by multiplying a daily amount set forth in the Contract by the number of Days the Work remains Incomplete after the Contract Completion Time has expired.

Major Item: An individual Pay Item that constitutes 10% or more of the amount of the Awarded

Contract, calculated using the Contractor's Bid prices and the estimated quantities contained in the Bid Documents.

Material: Any substance specified for use in the construction of the Project and related approaches.

Minor Item: All Pay Items that are not Major Items.

Minor Span: Same definition as Bridge, except having an opening of at least 10 feet, but less than 20 feet.

Modification: See Contract Modification.

National Highway System (NHS): A system of Interstate Highways and major collectors specifically designated by the Federal Highway Administration. It includes the Interstate System, other urban and rural principal arterials, highways that provide motor vehicle access between the NHS and major intermodal transportation facilities, the defense strategic highway network, and strategic highway network connectors.

Non-conforming Work: All Defective, Unauthorized, or Uninspected Work.

Notice of Award: A written notice to the Contractor stating that the Contract has been executed.

Notice of Intent to Award: Written transmittal by the Authority to an Apparent Successful Bidder, following approval of an Award by the Authority's Board or Executive Director, of either of the following: (1) the Contract Documents or (2) Notice, which may be by electronic mail, that the Contract Documents are available for the bidder to pick up at the Authority. See Section 103.4 – Notice of Intent to Award

Notice to Contractors: The advertisement or invitation for Bids issued by the Authority.

Offer: A response to a solicitation that, if accepted, would bind the offeror to perform the resultant Contract. Submission of a Bid constitutes an Offer by the Bidder.

Order: A directive from the Authority requiring compliance by the Contractor.

Owner: The legal or record Owner of the property on which the Project is to be constructed.

Partnering: See Section 104.4.1 - Partnering.

Pavement Structure: The combination of subbase, base course, and surface course placed on a subgrade to support the traffic load and distribute it to the roadbed.

A. Base Course- One or more layers of specified Material thickness placed on a subbase or a subgrade to support a surface course.

B. Subbase- Layers of specified Material thickness placed on a subgrade to support a base course.

C. Surface Course- The top layer(s) of a Pavement Structure designed to accommodate the traffic load, resist skidding, traffic abrasion, and the disintegrating effects of climate. This layer is sometimes called the "Wearing Course."

Pay Item: An item of Work set forth in the Schedule of Items for which the Contractor must provide a price.

Payment Bond: The security furnished by the Contractor and its Surety to guarantee payment of all obligations incurred by the Contractor related to the Contract. For a related provision, see Section 110.2.1 - Bonds.

Performance Bond: The security furnished by the Contractor and its Surety to guarantee performance of the Work in Conformity with the Contract. For a related provision, see Section 110.2.1 - Bonds.

Physical Work: All Work specified in the Contract that affects the physical environment including all Work within the Project Limits, final cleaning up and finishing, and Completion of Punch List Items as provided in Section 107.9 - Project Closeout, and removal of traffic control devices.

Plans: When the context so indicates, "Plans" means applicable construction drawings including plan, profile, typical cross sections, Working Drawings, Standard Details, Supplemental Standard Details, and supplemental Drawings or exact reproductions thereof or electronically displayed equivalents, that show the location, character, dimensions, and details of the Work. Where the context so indicates, "Plan" may also mean a detailed process, program, or method worked out beforehand for the accomplishment of an objective. Examples include QCP, the SEWPCP, the TCP, Safety Plan, and Project specific emergency planning.

Prequalification Procedure: The current procedure and requirements observed by the MaineDOT in its prequalification of Contractors, including but not limited to the requirements contained in the current version of the MaineDOT's Contractor's Prequalification Procedure first adopted by the MaineDOT in April 1998 and administered through the MaineDOT's Contracts Section.

Process Control Test: Test performed at the source of supply of Material to determine whether the Material meets the Specification prior to Delivery.

Profile Grade: The trace of a vertical plane intersecting the top of the wearing surface, usually

along the longitudinal centerline of the roadbed. Profile Grade means either elevation or gradient of such trace according to the context.

Progress Meeting: See Section 104.4.3 - Progress Meetings.

Project: The infrastructure improvement being constructed, rehabilitated, or repaired, together with all appurtenances and Incidentals. All the Work to be performed under the Contract.

Project Limits: Areas within the Right-of-Way or Construction Limit Lines shown on the Plans or otherwise indicated in the Contract. If no Project Limits are indicated in the Contract, the Project Limits shall be the area actually occupied by the Bridge, Highway, or other infrastructure before construction extending to and including (A) the area outside the Shoulders and ditch lines and within any landmarks or historic features such as fences, fence posts, tree rows, stone walls, corner stones, or other monuments indicating the boundary line, or (B) in the absence of any landmarks or historic features, Sidewalks, Shoulders, and ditch lines to the top of cuts or toe of fills. For a related Maine statute, see 23 MRSA § 653.

Project Manager: The Authority's duly authorized representative for overall coordination of the Project.

Project Records: Records or data of any type on any media including those produced by the Contractor or its consultants, Subcontractors, suppliers, or manufacturers that are related to the Project. Project Records include, but are not limited to, Plans, Working Drawings, Specifications, manufacturer's recommendations, catalog cuts, daily time reports, records of Force Account Work, schedules and scheduled updates or revisions, quality control Plans and related documentation, inspectors' reports, traffic control Plans and log, safety program and incident reports, soil erosion and water pollution control Plans and log, employment records, payrolls, internal accounting records, equal opportunity and affirmative action records, preconstruction conference records, Progress Meeting records, Partnering records, correspondence, e-mails, and any other documents related to the Work.

Proposal: A Bid or other response to a Request for Proposals.

Proposer: The entity submitting a Proposal.

Punch List: See Sections 107.9.2 - Notice/Inspection/Punch List and 107.9.3 - Notices/ Final Inspections/Physical Work Completion.

Quality Assurance (QA): All planned and systematic operations to ensure that the operation, material, and/or end product meets Specifications. Quality Assurance may include, but is not necessarily limited to the following:

A. Approval and oversight of the Contractor's Quality Control Plan
B. Review of inspector, sampler, tester, and Laboratory qualifications
C. Inspection for Conformity with Contract requirements
D. Contractor Quality Control

E. Acceptance Testing, and
F. Independent Assurance.

Quality Control (QC): Planned and specified actions or operations necessary to produce an end product that Conforms to the quality requirements of the Contract. Unless otherwise specified, QC includes inspection and testing for process control to the extent determined necessary by the Contractor. Quality Control is also referred to as Process Control.

Quality Control Plan (QCP): The program and documentation of that program, approved by the Authority, which specifies the actions, inspection, sampling, and testing necessary to keep production and placement operations within Specifications, including provisions to quickly determine when an operations becomes out of control and those actions that the Contractor will take to restore compliance.

Receipted Bill: Written Evidence provided by the Contractor that the cost of materials has actually been paid by the Contractor. This could take the form of a copy of a cancelled check, a copy of an invoice with written verification from the Subcontractor that the bill has been paid or a written declaration from the Subcontractor, on its letterhead, that the bill has been paid.

Received or Receipt: When considering documents, unless the context indicates otherwise, Receipt by regular US mail, overnight courier, service in hand, or by fax or electronic transmission with confirmation of Receipt originating from the recipient. If Delivered by regular US mail, notices that are properly addressed will be deemed Received three Days after mailing, unless the recipient admits earlier Receipt, in which case Receipt will be the date admitted.

Reference Stake: A stake set beyond the proposed grading areas for use as a control for the new construction.

Related Entities: All general partners, joint venturers, parent firms, subsidiaries, or sister firms that are, in the Authority's judgment, owned or controlled by the Bidder or other entity under consideration.

Request for Proposal: The Authority's solicitation for Proposals, including the Notice to Contractors and other documentation furnished or made available to potential Proposers.

Resident: The Authority's on-site representative.

Right-of-Way: A general term denoting land, property, or interest therein, usually in the form of a strip, acquired for or devoted to the Project or other purposes.

Road: A general term denoting a public way for purposes of vehicular travel, including the entire area within the Right-of-Way.

Roadbed: The graded portion of a Highway within top and side slopes, prepared as a foundation for the Pavement Structure and Shoulders.

Roadside: A general term denoting the area adjoining the outer edge of the Roadway. Extensive areas between the Roadways of a divided Highway may also be considered Roadside.

Roadside Development: Those items necessary to complete the Highway that provide for the preservation of landscape Materials and features; the rehabilitation and protection against erosion of all areas disturbed by construction through seeding, sodding, mulching, and the placing of other ground covers; and such suitable planting and other improvements as may increase the effectiveness and enhance the appearance of the Highway.

Roadway: The portion of a Highway, including Shoulders, for vehicular use. A divided Highway has two or more Roadways.

Schedule of Items: A document containing the list of items of Work provided in the Bid Documents on which the Contractor provides prices. The Schedule of Items is a Special Provision.

Schedule of Work: A written Work schedule submitted and maintained by the Contractor by which the Contractor Plans and prosecutes the Work. The Schedule of Work contains dates of commencement and Completion of various items of Work within the Contract Time and all authorized extensions. For a related provision, see Section 107.4.2 - Schedule of Work Required.

Shop Drawings: See Working Drawings.

Shoulder: The portion of the Road or Roadway that is contiguous with the traveled Way and that is provided for accommodation of stopped vehicles, emergency use, and lateral support of base and surface courses.

Sidewalk: A way constructed primarily for the use of pedestrians.

Skew or Skew Angle: The acute angle formed by the intersection of the line normal to the centerline of the Roadway or the Working line of the Superstructure with a line parallel to the face of the Substructure or in the case of structural plate units and Culverts, with the centerline of the structural plate units and Culverts.

Special Provision: Revisions to the Standard and/or Supplemental Specifications applicable to an individual Project or Contract.

Specifications: A written or electronic textual compilation of provisions and requirements for the performance of the Work, including incorporations by reference.

Standard Details: Detailed Drawings published and approved by the Authority for general application and repetitive use.

Standard Specifications: Maine Department of Transportation Standard Specifications and Standard Details for Construction Revision of 2014.

State: The State of Maine acting through its authorized agencies and representatives.

Street: A general term denoting a public way for purposes of vehicular travel, including the entire area within the Right-of-Way.

Structures: Bridges, Culverts, catch basins, drop inlets, retaining walls, cribbing, manholes, end walls, buildings, sewers, services pipes, underdrains, foundation drains, and other manufactured features.

Strut: See Large Culvert

Subcontractor: An individual, firm, corporation, limited liability company, partnership, joint venture, sole proprietorship, or any other entity to whom the Contractor or a Subcontractor contracts a portion of the Work. A subcontracting arrangement shall be considered to exist when a person or firm assumes an obligation through a written contract for performing part of the Work using its own Equipment and Workers, procuring its own Materials and supplies, and furnishing its own supervision with only general overall supervision being exercised by the prime Contractor or higher tier Subcontractors. Unless the context indicates otherwise, Subcontractors include suppliers, vendors, fabricators, and any other entities which contract to perform any portion of the Work.

Subgrade: The top surface of a Roadbed upon which the Pavement Structure, Shoulders, and curbs are constructed.

Subgrade Treatment: Modification of Roadbed Material by stabilization.

Substantially Conform or Substantial Conformity: Substantially Conform or Substantial Conformity means that the Work at issue, though not in strict accordance with the Plans, Specifications, or other Contract requirements, Conforms sufficiently to the applicable standard such that it may be acceptable to the Authority (possibly with a credit to the Authority) and not require removal, as determined by the Authority. For a related definition, see Conformity. For a related provision, see Section 106.8.1 - Substantially Conforming Work.

Substructure: All of that part of the Structure below the bearings of simple and continuous spans, skewbacks of arches, and tops of footings of rigid frames, together with the backwalls, parapets, and wingwalls of abutments.

Superintendent: The Contractor's authorized on-site representative who is in charge of and responsible for the Work.

Superstructure: Excluding backwalls, wingwalls and wing protection railing, the portion of the Structure above: the bearings of simple and continuous spans; the skewbacks of arches; the top of footings of rigid frames.

Supplemental Liquidated Damages: Liquidated Damages for additional costs resulting from Contractor's failure to complete a specific Work item, phase, or milestone within the time specified in the Contract for that item. Supplemental Liquidated Damages are in addition to and separate and distinct from Liquidated Damages.

Supplemental Specification: Approved additions or modifications to the Standard Specifications.

Supplemental Standard Details: Approved additions or modifications to the Standard Details.

Surety: The corporation, limited liability company, partnership or individual, or other entity, other than the Contractor, that executes or is obligated under a Contract Bond or Bid Bond.

Traveled Way: The portion of the Roadway that is intended for the movement of vehicles, exclusive of Shoulders and auxiliary Lanes.

Turnpike: The entire toll highway, including all approaches, bridges, interchanges, toll facilities and structures owned by the Maine Turnpike Authority.

Unacceptable Work: All Work that does not Substantially Conform to the Contract as determined by the Authority.

Unauthorized Work: Work performed without providing the Resident with reasonable notice of the date and time that the Work is to be performed, Work performed contrary to the instructions of the Authority, or any Extra Work performed without written Contract Modification or Agreement. For a related provision, see Section 106.8.3 - Unauthorized Work.

Uncontrollable Events: Events or acts that were unforeseeable at the time of Bid submission and that were beyond the Contractor's control in that the risk of the event or act could not have been prevented or managed by the Contractor with proper planning, coordination, Subcontractor management, insurance, bonding, maintenance, erosion control, traffic control, security precautions, Workers or Equipment. Uncontrollable Events are of two types: (A) severe weather events that meet the requirements of the first sentence of this definition and/or (B) non-weather events that meet the requirements of the first sentence of this definition which might include acts by foreign enemy, quarantine restrictions, strikes not involving the Contractor, action or inaction by governmental authorities, action or inaction by Utility Companies or other third parties (not Subcontractors) working on Project related Work within the Project Limits, and freight embargoes. Uncontrollable Events specifically do not include: fires (unless caused by a weather

event described in this definition above), acts by other third parties including vandals and members of the traveling public, non- performance of Subcontractors (except in cases of unforeseeable, permanent, and complete cessation of all operations by the Subcontractor for reasons unrelated to the Contractor), and difficult, but foreseeable weather for the location and time of the Work including but not limited to cold, snow, and ice in the winter, flooding caused by snow melt and rain in the spring, rain in the fall, and thunderstorms in the summer.

Uninspected Work: Work that was performed without inspection by the Authority.

Unit Price: The price for one unit of Work submitted by the Bidder in its Bid.

Utility Companies: All persons or entities set forth in 35-A MRSA §2501(2).

Utility Facilities: All Structures, facilities, Equipment, and all appurtenances thereto used by Utility Companies including, but not limited to, poles, wires, support poles, guys, anchors, water pipelines, sewer pipelines, gas pipelines, all other pipelines, fire alarms, service connections, meter boxes, valve boxes, light standards, cableways, Conduits, signals, and manholes.

Value Engineering Change Proposal: See Section 109.6 - Value Engineering.

Wetlands: Areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions.

Winter Suspensions: See Section 107.5.1 - Winter Suspensions.

Work: All labor, services, personnel, Materials, Equipment, tools, supplies, and Incidentals required or indicated by the Contract in Conformity with the same. For a related provision, see Section 105.1 - Intent of the Contract.

Working Day: A calendar day, exclusive of Saturdays, Sundays, holidays and the period from November 15th to May 15th inclusive, on which weather and other conditions not under the control of the Contractor will permit construction operation to proceed for 70% of the hours of the usual working day with normal working force.

Saturday shall be considered one half of a working day if the Contractor works 2 or more hours during the forenoon. If the Contractor extends work after 12 o'clock noon after working 2 or more hours during the forenoon, it shall be considered as one working day. If after approval, work is performed on a Sunday or Holiday, the day shall be considered a working day. Work necessary either for the safety of the traveling public or maintenance, performed on Sundays or Holidays, which is neither caused by nor resulting from any fault of the Contractor, shall not be considered a working day.

The Contractor shall not work during the period from ½ hour after sunset to ½ hour before sunrise, unless otherwise approved by the Resident.

Working Drawings: Plans, sketches, or Drawings provided by the Contractor, or its Subcontractors, vendors, or fabricators for the purpose of supplementing the Plans provided in the Bid Documents and being necessary to demonstrate that the Work will comply with the Contract and meet the intent of the Contract. Working Drawings shall be of sufficient detail to meet the purpose set forth in the preceding sentence. Examples include Shop drawings, erection Plans, falsework Plans, cofferdam Plans, and bending diagrams for reinforcing steel.

101.3 General Rules of Interpretation

101.3.1 Meaning of "Approved," Etc. - Unless the Contract clearly indicates otherwise, whenever anything is to be done or is not to be done unless "approved", "accepted", "acceptable", "authorized", "ordered", "required", "determined", "directed", "specified", "designated", "established", "suitable", "satisfactory", "sufficient", "unacceptable", or a similar word or phrase, the word or phrase shall be interpreted as if it were followed by the words "by the Authority" or "to the Authority" as applicable.

101.3.2 Referenced Publications - The Contractor is responsible for obtaining all manuals, Specifications, reference guides, or other publications referenced or indicated by the Contract and performing the Work in Conformity with the same. Unless a specific date or version is specified, the Contractor shall use the most recent version of such publication that existed at the time the Bid was submitted.

101.3.3 Cross References - Cross-references are sometimes provided in the Contract. (Example: "For a related provision, see Section "). These cross-references are provided for convenience only and are not a comprehensive listing of related Sections. The lack of a cross reference or an incorrect reference shall not be interpreted as indicating that there are no related provisions and does not relieve the parties of the obligation to read the Contract as a whole.

101.3.4 Headings and Tables of Contents - All headings, indices, titles, and tables of contents are for convenience only. They do not control interpretation and do not relieve the parties of the obligation to read the Bid Documents or Contract as a whole.

101.3.5 Calculated Dimensions Control - In the case of discrepancy between calculated dimensions and scaled dimensions, calculated dimensions shall control.

101.3.6 Priority of Conflicting Contract Documents - If the Contractor discovers any ambiguity, error, omission, conflict, or discrepancy ("ambiguity, etc.") related to the Contract Documents that may significantly affect the cost, quality, Conformity, or timeliness of the Work, the Contractor must comply with Section 104.3.3 - Duty to Notify Department If Ambiguities Discovered. In the case of ambiguity, etc., the following components of the Contract Documents shall control in the following descending order of priority:

Bid Amendments (most recent to least recent)

Project Specific Permit Requirements
Special Provisions
Notes on Plans Issued for Bidding
Plans Issued for Bidding
Supplemental Specifications
Supplemental Standard Details
Standard Specifications
Standard Details

101.3.7 Multiple Pay Items - When there is more than one Pay Item for similar Work governed by one Specification, the item number in the Specification may be appended with additional digits to differentiate such multiple Pay Items. For example, Specification item 900.06 also covers Pay Items 900.061, 900.062, 900.0601, and 900.0602, etc. unless the context clearly indicates otherwise.

SECTION 102 - BIDDING

Scope of Section This Section includes requirements related to eligibility to Bid and the Bidding process from advertisement for Bids, through Bid Opening, to the analysis of Bids.

102.1 Eligibility to Bid

102.1.1 Basic Requirements - To be eligible to Bid, prospective Bidders must (A) not have been debarred or suspended from Bidding by the Authority or MaineDOT, and (B) not be in Default with respect to any outstanding Contract with the Authority or MaineDOT, unless the Authority grants written permission to Bid despite such Default. For related provisions, see Sections 102.9 - Bid Opening and 103.3 - Post-Bid Qualification.

102.2 Notice to Contractors - A Notice to Contractors will provide a solicitation or an invitation to bid.. Such Notice will contain a brief and general description of the nature and location of the Work and information about how to Bid and how to provide any prequalification requirements.

102.3 Examinations of Documents, Site and Other Information - Before submitting a Bid, the Bidder is responsible for: (A) obtaining and examining the Plans, Specifications, all Bid Amendments, and all other Bid Documents; (B) examining the Geotechnical Information and all other information provided or referenced in the Bid Documents; (C) examining the site(s) of Work and making other examinations and investigations that are needed to Make the Bidder fully aware of the conditions that would be encountered in performing the Work, and (D) communicating with the Authority as provided in Section 102.5 - Communication Before Bid Opening. For a related provision, see Section 102.7.2 - Effects of Signing and Delivery of Bid.

102.3.1 Geotechnical Information - Bidders and Contractors are obligated to examine and, if necessary, obtain geotechnical information. If one exists the Authority's project geotechnical report will be made available, either on the Authority's website or otherwise.

The Authority shall not be responsible for the Bidders' and Contractors' interpretations of or estimates or conclusions drawn from the Geotechnical Information. Data provided may not be representative of the subsurface conditions between the boring locations.

This section does not diminish the duties imposed upon parties in Section 102 or in any other sections.

102.4 Estimated Quantities - Quantities shown in the Bid Documents are estimates; only to be used for the preparation and comparison of Bids. For related provisions, see Sections 109.1- Changes in Quantities and 109.2 - Elimination of Items.

102.5 Communication Before Bid Opening

102.5.1 Questions From Bidders - All questions from Bidders must be transmitted as described in the Notice to Contractors.

102.5.2 Bidder's Duty To Notify Authority If Ambiguities Discovered - Bidders shall not take advantage of any ambiguity, error, omission, conflict, or discrepancy ("ambiguity, etc.") relating to the Bid Documents, Geotechnical Information, site conditions, or any other information that may significantly affect the cost, quality, Conformity, or timeliness of the Work. If a Bidder discovers any such ambiguity, etc., it must notify the Bid Contact Person immediately in writing. Failure to provide such notice constitutes a waiver of any claim for entitlement for additional compensation or time related to such ambiguity, etc.

102.5.3 Bid Amendment - The Authority will interpret or modify the Bid Documents only by written Bid Amendment or other writing issued by the Authority. The Authority is not bound by any other oral or written representations, including information exchanged verbally at pre-Bid meetings. The Authority will issue written Bid Amendment in response to questions from Bidders when the answers: (A) relate to ambiguous, incorrect, or missing information in the Bid Documents; (B) are not apparent to Contractors experienced in the type of Work covered by the potential Contract; and (C) could have a significant impact on the cost, quality, Conformity or timeliness of the Work. For a related provision, see Section 102.5.1 - Questions From Bidders.

102.6 Bid Guaranty - Bids must be accompanied by a Bid Guaranty that complies with all the requirements of this Section, unless noted otherwise in the Notice to Contractors and the Bid Documents.

No Proposal will be considered unless accompanied by a Bid 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 Bid Guaranty shall not be less than $500.00. Solicitations do not require a Bid Guaranty.

Bid Bonds must be: (A) issued by an insurance company licensed or approved by the State of Maine, Department of Business Regulation, Bureau of Insurance, to do business in the State of Maine; (B) properly signed by the Bidder (as Principal) and a duly authorized representative of the insurance company referenced above, and (C) on the Authority's Bid Bond form (or an exact copy thereof) OR must not contain any significant variations from said form as determined in the sole discretion of the Authority.

102.7 Delivery of Bids

102.7.1 Location and Time - The Proposal and the Bid Guaranty shall be enclosed in a sealed envelope 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

A. Offer and Agreement to Pre-execution Terms: The signing and Delivery of a Bid represents: (1) an offer by the Bidder to perform the Work for the price(s) submitted within the time(s) specified and in Conformity with all provisions of the Bid Documents; and (2) the Bidder's Agreement to all the provisions of the Bid Documents governing requirement and procedures applicable before Contract Execution. The Bidder's offer shall be irrevocable until the expiration of the time for Contract Execution by the Authority set forth in Section 103.8, except as provided in Sections 102.8 and 102.10 regarding withdrawal of Bids.

B. Bidder Representations: By signing and Delivering a Bid, the Bidder represents that: (1) the Bidder has performed the examinations required by Section 102.3 - Examinations of Documents, Site and Other Information; (2) the Bidder has given the Authority written notice of all ambiguities, etc. discovered by the Bidder as required by Section 102.5.2 – Bidder's Duty to Notify Department if Ambiguities Discovered; and (3)the Bidder has sufficient knowledge of the Bid Documents, Geotechnical Information, the site, and other conditions to properly price, schedule, plan, and perform the Work.

102.8 Withdrawal of Bids Before the Time Specified for Bid Opening A Bidder may withdraw a Bid after Delivery, provided the request for such withdrawal is made in writing or in person before the time set for Bid Opening in the Notice to Contractors. The Bidder may revise and resubmit a Bid so withdrawn before the time specified for Bid Opening.

102.9 Bid Opening Bids will be opened at the time and place specified in the Notice to Contractors or any applicable Bid Amendments. Unit and lump sum prices are available for inspection by the Bidders after the Bid Opening process.

Accordingly, the Authority may reject a Bid as non-responsive and/or determine a Bidder is not responsible or ineligible to Bid even if that Bidder's Bid is read at Bid Opening.

102.10 Withdrawal of Bids in Multiple Bid Context Bids may not be withdrawn after the time of Bid Opening, except under the limited circumstance set forth in this Section 102.10.

If a Bidder has submitted Bids on multiple Projects that have the same Bid Opening time, and if after the reading of Bids the Bidder has submitted the apparent low Bid on one Project, then the Bidder may withdraw any Bids on other Projects for which no Bids have yet been read. Such a request for withdrawal must be made in person or in writing. Bids withdrawn will not be considered. The Bidder assumes sole responsibility for the risk that the Bidder's apparent low Bid is ultimately rejected as non-responsive or that the Bidder is later determined to be not responsible.

102.11 Bid Responsiveness

102.11.1 Non-curable Bid Defects The Authority **WILL REJECT** Bids as non-responsive if ANY ONE of the following occurs.

A. The Bid and Bid Guaranty are not Delivered to the precise location and by the precise time set forth in the Notice to Contractors or any applicable Bid Amendment.

B. The Bidder is not eligible to Bid as set forth in Section 102.1 - Eligibility to Bid.

C. The Bid is not signed by a duly authorized representative of the Bidder.

D. A Bid Guaranty Conforming to Section 102.6 - Bid Guaranty is not submitted.

E. The unit price and bid amount is not provided or a lump sum price is not provided or is illegible as determined by the Authority.

F. The Bidder fails to indicate the Bidder's choice where the Bid Documents clearly require a choice affecting the bid amount.

G. The Bid contains any conditional or alternate Bidding language including the right to accept or reject an Award of the Contract.

H. The Bidder submits more than one Bid for the same Contract, or the Bidder and any Related Entity each submit a Bid for the same Contract.

I. The Authority has substantial evidence of collusion by the Bidder.

J. The Bidder fails to comply with any provision in the Bid Documents that expressly indicates that such non-compliance will cause Bid rejection.

K. When A plus B bidding is specified, the bid does not contain the number of Calendar Days bid to complete the work

L. The Bid is not submitted on the most current forms provided by the Authority or identical copies thereof

The Bidder will have no opportunity to cure the above Non-curable Bid Defects.

102.11.2 Curable Bid Defects - Unless the Authority waives a curable Bid defect, the Bidder must cure, within the time stated in the written notice by the Authority, but not less than 24 hours, all other Bid Defects not listed in Section 102.11.1 - Non-curable Bid Defects that are identified by the Authority. Failure to cure such Defects within said time may result in forfeiture of the Bidder's Bid Guaranty. Upon such failure, the Authority may take any action in the best interests of the Authority including those set forth in Section 103.6 - Failure to Fulfill Award Conditions.

Such curable Bid Defects include, but are not limited to, the following.

A. Missing total sum of the items provided in the Schedule of Items.

B. The prices or signatures on the Bid or Bid Guaranty are not in ink or other non-erasable substance.

C. Failure to acknowledge Receipt and consideration of all Bid Amendments.

D. All other Defects that do not create a significant question as to the Bidder's total Bid amount or the Bidder's ability to complete the Work within the Contract Time or otherwise in accordance with the Contract terms, as determined by the Authority.

Bids that the Authority determines, in its sole discretion, create a significant question as to the Bidder's ability or will to complete the Work within the Contract Time or otherwise in accordance with the Contract terms will be treated as non-curable defects. Materially unbalanced bids may fall into this category, depending on the circumstances.

Contractors prequalified for the general category stated in the Notice to Contractors may be determined non-responsive by the Authority based on recent or new data provided since the last determination of prequalification for that Contractor.

If the Authority rejects a bid as non-responsive it may take any action that is in the best interests of the Authority including but not limited to those set forth in Section 103.6 - Failure to Fulfill Award Conditions.

SECTION 103 - AWARD AND CONTRACTING

Scope of Section This Section includes requirements related to the final determination of Bid responsiveness and Award and execution of the Contract.

103.1 Analysis of Bids

103.1.1 Unit Prices Govern - After Bid Opening, the Authority will review the mathematics of all apparently responsive Bids. In the event of a discrepancy between (A) unit and lump prices and (B) extensions and/or the total Bid Price, the unit and lumps sum prices shall govern and the total Bid Price will be adjusted accordingly.

103.1.2 Unbalanced Bids

A. Definitions: An Unbalanced Bid is a Bid that is Mathematically Unbalanced and that may also be Materially Unbalanced. Mathematically Unbalanced means a Bid containing lump sum or Unit Prices, which do not reflect reasonable direct costs plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs, and other indirect costs. Materially Unbalanced means a Mathematically Unbalanced Bid, which, in the Authority's judgment, generates a doubt that said Bid will represent the lowest ultimate cost to the Authority.

B. Comparison and Possible Bid Rejection: The Authority will compare the price of items contained in the Bid of the Apparent Successful Bidder with the estimate prepared by the Authority. If the Bid is Mathematically Unbalanced, the Authority may, in its discretion, notify the Apparent Successful Bidder and request an explanation. There shall be no negotiation or changes in prices. If the Bidder fails to provide a reasonable explanation, and if the Authority finds the Bid is Materially Unbalanced, the Authority may reject the Bid as non-responsive and may take any action that is in the best interests of the Authority including those set forth in Section 103.6 - Failure to Fulfill Award Conditions.

103.1.3 Waiver of Defects and Technicalities; Right to Reject Bids - The Authority reserves the right to reject any or all Bids and to advertise for new Bids if doing so is in the best interest of the Authority. The Authority reserves the right to waive curable defects and other technicalities without notice to any party. Refer to section 102.11.2 for Curable Bid Defects.

103.2 Return of Bid Guaranty - Bid Bonds will not be returned unless so requested. Bid Guaranties other than bonds will be returned within 7 Days following Bid Opening, except that the Bid Guaranties from the two lowest responsive Bids from responsible Bidders will be

retained until Contract Execution or rejection of all Bids.

103.3 Post-Bid Qualification

103.3.1 PreQualification Requirement for Award - If the Notice to Contractors lists a PreQualification requirement, the Apparent Successful Bidder must successfully complete the prequalification process as a condition of Award. The Authority may, in its sole discretion, substitute the process described in subsection 103.3.1.1 for the Prequalification Procedure, or require compliance with that process in addition to the Prequalification Procedure.

103.3.1.1 Notice and Information Gathering - After Bid Opening and 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. The Authority may require this demonstration regardless of whether the Notice to Contractors listed a Prequalification requirement. 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 - 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:

A. Default(s) or termination(s) on past or current Contracts.

B. Failure to pay or settle all bills for labor, Materials or services on past or current Contracts.

C. Failure to provide Closeout Documentation on past or current Contracts.

D. Failure to fulfill warranty obligations on past or current Contracts.

E. Failure to comply with directives of the Authority or the MaineDOT on past or current Contracts.

F. "Below Standard" performance as determined from the MaineDOT's Contractor's Performance Rating process.

G. Inability of the Contractor to obtain or retain performance or Payment Bonds meeting MDOT requirements.

H. Failure to accept an Award of a Contract made by the Authority or the MaineDOT to the Contractor.

I. Making materially false, deceptive, or misleading Statements or omissions, whether or not under oath, regarding a claim on prior Contracts or in connection with a prequalification process.

J. Failure to provide information requested by the Authority pursuant to this Section 103.3.

K. Any of the reasons contained in Section 102.02 of the "Rules Regarding Debarment of Contractors", Maine Department of Transportation Register 17-229, Chapter 102 (October 2, 1985).

L. Debarment or suspension by any federal, State, or local governmental procurement agency or the Contractor's Agreement to refrain from Bidding as part of the settlement with any such agencies.

M. Other serious misconduct that the Authority determines will substantially and adversely affect the cost, quality or timeliness of Work, or the safety of Workers or the public.

N. Bidder has previously performed Work for the State or 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.

S. Lack of qualifications as determined by the Authority.

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

103.3. 3. Appeal - To appeal a "Not Qualified" determination, the Bidder must Deliver a written "Request for Appeal of Qualification Determination" to the Authority's Chief Operations Officer within 48 hours of Receipt of such determination. The Chief Operations Officer or the Chief Operations Officer's designee will grant such Requests for Appeal unless

the Authority reasonably determines that Delay of Award pending appeal is likely to cause substantial harm to the interests of the Authority. If the Request for Appeal is denied the determination of "Not Qualified" is upheld and the Award process will proceed without the unqualified Bidder.

If the Request for Appeal is granted, the Bidder and the Chief Operations Officer must Deliver to the Executive Director or the Executive Director designee any information or arguments that the parties want considered within 14 Days of Receipt of a "Not Qualified" determination.

Within 14 Days of Receipt of such information and arguments, the Executive Director will notify the Bidder in writing as to whether the decision of "Not Qualified" is upheld, modified, or reversed. The Executive Director'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 Intent to Award - Within five (5) days of the Maine Turnpike Authority Board or Executive Director approval of a Contract Award, the Authority will transmit to the Apparent Successful Bidder a Notice of Intent to Award. .

103.5 Award Conditions - The Apparent Successful Bidder must provide and/or perform all of the items listed in this Section 103.5 within 14 Days of Receipt of the Notice of Intent to Award. Unless indicated otherwise, all items must be Delivered to the Authority's Purchasing Manager.

103.5.1Performance and Payment Bonds Performance and Payment Bonds complying with Section 110.2.1 - Bonds.

103.5.2Insurance Certificates - Certificates of Insurance complying with Section 110.3 - Insurance.

103.5.3 Non-Resident Contractor Requirements -

A. Definition A Non-Resident Contractor is defined as a Contractor that is: (A) any person who is not a Resident of the State of Maine, or (B) any firm, corporation, limited liability company, partnership, joint venture, sole proprietorship, or other entity which (A) is not licensed to do business within the State of Maine, or (B) does not have a principal place of business within the State of Maine.

B. Requirements If a Non-Resident Contractor, the Apparent Successful Bidder must file with the Authority a copy of a written appointment of an attorney admitted to practice in the State of Maine having a place of business within the State. The appointment must: (A) set forth the attorney's business and personal addresses, and business

telephone and fax numbers, (B) name said attorney to be the true and lawful attorney of the Non-Resident Contractor, (C) set forth that the Contractor agrees that any lawful process which is served on said attorney shall have the same legal force and validity as if served on the Contractor, (D) set forth that the appointment shall continue in force as long as any potential liability in any way related to the Work or the Contract remains or until the Authority receives written notice of a change of appointment Conforming to this paragraph, (E) provide that service of such process may be made by leaving a copy of the process in the hands or in the office of the Resident attorney and that such service will be effective upon the Non-Resident Contractor, as if service were made in accordance with Rule 4 of the Maine Rule of Civil Procedure, and (F) provide that the Contractor expressly waives any and all defenses regarding service of process under Rule 12 of said Civil Rules or otherwise. The appointment shall be filed in the office of the Maine Secretary of State.

103.5.4 Execution of Contract By Bidder - The properly completed signed and witnessed Contract Agreement

103.5.5 Bid Escrow - If required by Special Provision, the Apparent Successful Bidder must provide a legible copy of Bid Escrow Documentation and a related Affidavit Conforming to said Special Provision. .

103.5.6 Other Conditions - The Apparent Successful Bidder must comply with all other conditions set forth or referenced in the Notice of Intent to Award. and other conditions that are described in the Contract Documents as requirements of Contract Award, including but not limited to requirements relating to Prequalification.

103.6 Failure to Fulfill Award Conditions - Failure of the Apparent Successful Bidder to fulfill all conditions of Award within the time provided or to otherwise accept an Award will result in forfeiture of the Award to the Apparent Successful Bidder and the forfeiture of the Bid Guaranty. Such Bidder will be prohibited from submitting a Bid for the Work in the event that the Work is re-advertised. Further, the Authority may refuse to accept any Bid from the Bidder on any Project for a period of two years from the date of such refusal.

The Authority may then take any action that the Authority determines is in it's best interest including Awarding the Contract to the responsible Bidder with the next lowest responsive Bid, rejecting all Bids, and/or re-advertising the Work.

103.7 Forfeiture of Award - The Authority reserves the right to stop the Award of any Contract at any time before the Contract Execution without liability if doing so is in the best interest of the Department. Any costs incurred by the Bidder before Contract Execution shall be the sole responsibility of the Bidder.

103.8 Award of Contract by Authority - Once the Contractor has met the requirements of the Notice of Intent to Award, the Authority has 14 days to execute the Contract. Execution

of the Contract of the Authority constitutes the Authority's acceptance of the Contractor's Offer and Award of the Contract. If the Authority does not execute the Contract within the required time, the Apparent Successful Bidder may withdraw its Bid without forfeiture of its Bid Guaranty or Bidding eligibility. For a related provision, see Section 107.2 - Commencement of Contract Time.

103.9 Computation and Extension of Time - In the event that a time period provided in this Section 103 concludes on a Holiday, Saturday, or Sunday, said time period shall be extended to the next Business Day.

The Authority and Apparent Successful Bidder may extend the time for the Award process, fulfillment of Award Conditions, or execution of the Contract by mutual Agreement. Unless specifically and mutually agreed to in writing, such extensions shall not extend the Contract Time or the Contract Completion Date.

SECTION 104 - GENERAL RIGHTS AND RESPONSIBILITIES

Scope of Section This Section sets forth certain rights and responsibilities of the Authority and the Contractor that are generally applicable to all Contracts. This Section is not all inclusive and additional rights and responsibilities are set forth elsewhere in the Contract.

104.1 General

104.1.1 Basic Roles of the Parties - The Contractor has the responsibility to perform all Work in Conformity with the Contract. The Authority has the authority and responsibility to assure that the Contractor does so.

104.1.2 Joint Covenants of Good Faith and Fair Dealing - This Contract imposes an obligation of good faith and fair dealing on both parties in the execution, performance, interpretation, and enforcement of the Contract. With a positive commitment to honesty and integrity, the Contractor and the Authority agree to function within all applicable laws, statutes, regulations, and Contract provisions; avoid hindering each other's performance; fulfill all Contract obligations diligently; and cooperate in achievement of the terms of the Contract. Nothing in this subsection nullifies or supersedes the express provisions of the Contract and the Standard Specifications.

104.2 Authority's General Authority and Responsibilities

104.2.1 Furnishing of Right-of-Way - The Authority will secure all necessary rights to real property within the Project Limits shown on the Plans.

104.2.2 Furnishing of Permits - Except as provided otherwise in the Contract, the Authority will furnish Permits required to perform the Work within the Project Limits. For a related

provision, see Sections 101.2 - Definition of Permits, 104.3.2 - Furnishing of Other Property Rights, Licenses and Permits and 105.8.2 - Permit Requirements.

The Contractor shall obtain the following permits, if applicable:

State Electrical and State Plumbing.

104.2.3 Authority of Resident - After Contract Execution, the Resident has the authority to take all actions needed to assure that the Contractor is performing the Work in Conformity with the Contract. Except as provided elsewhere in the Contract, the Resident will decide all questions regarding the quality and acceptability of Materials furnished, Work performed, suspension of Work, and the interpretation of the Contract. The Resident has the authority to reject Unacceptable or Unauthorized Work and refuse to approve Progress and Final Payments until the Unacceptable or Unauthorized Work is corrected. For related provisions, see Sections 106.8 - Non-conforming Work and 109.8 - Contract Modification.

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.

104.2.4 Authority of Residents and Inspectors - Residents, inspectors, and other Authority employees or representatives working for the Authority have the authority to make initial determinations regarding the Conformity of the Work. Unless authorized by the Program Manager, Residents or inspectors are not authorized to alter or waive the provisions of the Contract or to issue instructions contrary to the Contract. They may not act as a supervisor for the Contractor.

104.2.5 Right to Inspect Work - The Authority has the authority to inspect all Materials and every detail of the Work. For a related provision, see Section 104.3.5 - Inspection of Work.

104.2.6 Right to Suspend Work - The Authority has the right to suspend any or all Work at any time for any reason. For related provisions, see Sections 105.4.4 - Maintenance During Suspension of Work and 107.5 - Suspension of Work.

104.2.7 Damage to Project Caused By Uncontrollable Events - All repairs that are required to the Project or temporary Structures because of property damage that is directly caused by an Uncontrollable Event may entitle the Contractor to an Equitable Adjustment if the Contractor complies with the notification, documentation and procedural requirements set forth in the Contract. Delays resulting from an Uncontrollable Event will be analyzed in accordance with Section 109.5 - Adjustments for Delay. For related provisions, see Sections 101.2 - Definition of Uncontrollable Event, 104.3.10 - Responsibility for Damage to Work, 109.3 - Extra Work, 109.5 - Adjustments for Delay, 109.7 - Equitable Adjustments to Compensation and Time, and

109.8 - Contract Modification.

104.2.8 No Personal Liability - The Authority's employees and other representatives act solely as representatives of the Authority when conducting and exercising authority granted to them under the Contract. Such persons have no liability either personally or as Authority employees.

104.3 Contractor's General Authority and Responsibilities

104.3.1 General Duty to Cooperate - The Contractor shall cooperate with Authority personnel, Utility Companies, railroad personnel, marine traffic personnel, regulating agencies with jurisdiction, other Contractors, municipalities, and the public in every reasonable way possible. For a related provision, see Section 104.4 - Communication and Coordination.

104.3.2 Furnishing of Other Property Rights, Licenses and Permits - The Contractor shall acquire, at its sole expense, all property rights outside the Project Limits needed for construction staging, yarding, construction, waste disposal, or other Project-related purpose. The Contractor shall also acquire, at its sole expense, all licenses and Permits necessary to perform the Work that are not furnished by the Authority. For related provisions, see Sections 104.2.1 - Furnishing of Right-of-Way, 104.2.2 - Furnishing of Permits, 104.3.11 - Responsibility for Property of Others, and 105.8.2(B) - Permit Requirements, All Other Permits.

104.3.3 Duty to Notify Authority If Ambiguities Discovered - The Contractor shall not take advantage of any Ambiguity, error, omission, conflict, or discrepancy contained in the Contract. If the Contractor discovers any such ambiguity, etc. for which the Contractor may seek adjustments to compensation, time, or other Contract requirements, the Contractor shall provide a written notice to the Authority within 48 hours and before performing any Work related to the ambiguity, etc., as provided in Section 104.4.5 - Early Negotiation. Failure to provide such notice in compliance with the Contract shall constitute a waiver of all claims related to the ambiguity, etc.

104.3.4 Workers and Equipment - The Contractor shall at all times provide all Superintendents, forepersons, laborers, inspectors, Subcontractors, sub-consultants, Equipment, Materials, and Incidentals needed to perform the Work in Conformance with the Contractor's Schedule of Work and within the Contract Time.

Any person employed by the Contractor or by any Subcontractor or any officer or representative or agent of the Subcontractor, who, in the opinion of the Resident, is intemperate or disorderly, shall be removed immediately by the Contractor or Subcontractor employing such person. The employee shall not be employed again in any portion of the Work without prior approval from the Resident.

Should the Contractor fail to remove such person or persons as required above or fail to furnish suitable and sufficient personnel for the proper prosecution of the Work, the Resident

may suspend the Work by written notice until such orders are complied with.

During all hours of on-site activity, the Contractor shall provide an on-site, competent, English-speaking Superintendent experienced in the type of Work being performed. The Superintendent shall be capable of reading and understanding the Plans and Specifications, providing and receiving communications, and scheduling and coordinating the Work. The Superintendent shall have full authority to manage the Work in accordance with the Contract and will be responsible for managing the work of the Contractor's employees and all Subcontractor's present. Such superintendence must be provided regardless of the amount of Work being done.

All persons employed by or through the Contractor, except for registered trainees, shall have sufficient skill and experience to perform the Work properly. The Authority may require that the Contractor discharge any such person who the Authority determines jeopardizes safety of any person or successful completion of the Project without cost or liability to the Authority. If the Authority determines that such person's performance jeopardizes the intent of the Contract otherwise, the Authority may, but is not required, to notify the Contractor of such a determination. Neither the taking of any action by the Authority nor the failure of the Authority to take action under this paragraph will relieve the Contractor of its sole responsibility for safety and successful completion of the Project or otherwise affect the Contractor's duties regarding Workers, nor will it entitle the Contractor to any adjustment of compensation or time. Upon Receipt of such notice, the Contractor shall take any action it determines necessary to fulfill its obligations under the Contract. For related provisions, see Sections 104.5.4 - Discharge of Subcontractors, 105.1 - Intent of the Contract, and 105.2.3 - Joint Duty Regarding Safety.

104.3.5 Duties Regarding Inspection of Work

A. Safe Access The Contractor shall provide the Authority with safe access to all portions of the Work in Conformity with all applicable OSHA requirements. The Contractor shall furnish the Authority with all information and assistance required to make a detailed inspection. For a related provision, see Section 104.2.5 - Right to Inspect Work.

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.

B. Inspection By Others If any other governmental entity, Utility Company, or railroad is to pay for a portion of the Work or is otherwise authorized to inspect Work, then the Contractor must provide their representatives with safe access that Conforms to this Section 104.3.5.

104.3.6 Project Records - Upon request by the Authority, the Contractor or any other person Working for the Contractor possessing Project Records must provide the Authority with copies of Project Records at all reasonable times without cost or liability to the Authority. Unless the context clearly indicates otherwise, Project Records are the property of the Authority. The Contractor must retain Project Records for at least three years after Final Acceptance or for any applicable warranty period, whichever is longer. For related provisions, see Sections 101.2 - Definition of Project Records and 111.1.6 - Contractor's Obligation to Keep Records.

104.3.7 Laws To Be Observed - The Contractor shall keep itself informed of and comply with all applicable federal and state laws, rules, regulations, orders, and decrees ("Law") affecting the Work including all environmental, wage, labor, equal opportunity, safety, patent, copyright, or trademark laws. The Contractor shall indemnify the Authority and hold the Authority harmless against any and all claims or liabilities arising from or based upon the violation or alleged violation of any law caused directly or indirectly by or through the Contractor.

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

State Wage Rates and Labor Laws

Unless otherwise expressly provided, this contract is governed by the Prevailing Wage provisions currently codified in Title 26, Chapter 15 of the Maine Revised Statutes Annotated. If state wage rates apply the classification of construction type and related wage rates established by the Maine Department of Labor will normally be set forth by Special Provision. If not so set forth, the Contractor shall contact the Authority before Bidding to determine the applicable wage rates in accordance with Section 102.5.2 - Bidder's Duty to Notify Authority if Ambiguities Discovered. The Contractor shall pay according to said rates and shall otherwise comply with all applicable federal and State labor laws, rules, and regulations. .

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's Special Provisions.

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 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.

104.3.9 Intellectual Property - If necessary in the judgment of the Authority, the Contractor must provide proof of legal right to use any intellectual property, including but not limited to designs, processes, devices, trademarks, Materials and copyrights. The Contractor indemnifies and holds harmless the Authority and any affected third party or political subdivision from all claims of infringement that arise from improper or illegal use of any intellectual property.

104.3.10 Responsibility for Damage to Work - Except as provided in Section 104.2.7 - Damage to Project Caused By Uncontrollable Events, the Contractor shall bear all risk of loss relating to the Work until Final Acceptance, regardless of cause, including completed Work, temporary Structures, and all other items or Materials not yet

incorporated into the Work. For a related provision, see Section 110.3.6 - Builders Risk Insurance.

The Contractor shall, at its sole expense, rebuild, repair, restore, or replace such damaged Work or otherwise make good any losses that arise from such damage ("rebuilding, etc."). If the Contractor fails to Promptly commence and continue such rebuilding, etc., the Authority may, upon 48 hours advance written notice, commence rebuilding, etc. of the damaged property without liability to the Authority with its own forces or with Contracted forces and all costs will be deducted from amounts otherwise due the Contractor. For the Contractor's responsibilities for the Work after Final Acceptance, see Section 106.9 - Warranty Provisions.

104.3.11 Responsibility for Property of Others - The Contractor and its Subcontractors shall not enter private property outside the Project Limits without first obtaining permission from the Owners.

The Contractor shall be responsible for all damage to public or private property of any kind resulting from any act, omission, neglect, or misconduct of the Contractor and its Subcontractors. The preceding sentence includes damage to vehicles passing through the Work area.

The Contractor shall, at its sole expense, rebuild, repair, restore, or replace such damaged property and otherwise make good any losses that arise from such damage. Within fifteen (15) days of occurrence Contractor shall submit in writing to the Authority a copy of their response to the claimant. If the Contractor fails to completely remedy the damage in a timely manner, the Authority may, upon 48 hours advance written notice, rebuild, repair, restore or replace the damaged property or pay the applicable claim for damages without liability to the Authority with its own forces or with contracted forces. All costs will be deducted from amounts otherwise due the Contractor.

104.3.12 Forest Protection and Laws - The Contractor shall obey all laws and regulations that govern Work within or adjacent to State or National Forests, keep the Project site orderly and clean, obtain all required Permits, prevent and assist with the suppression of forest fires, and cooperate with authorized forestry officials.

Pursuant to State law, the sale of harvested forest products must be reported to the Maine Forest Service at the end of each year. The Contractor is hereby designated as the Authority's agent for reporting of any such harvesting.

104.3.13 Materials and Items Found on the Project - With the Authority's approval, the Contractor may use suitable excavated Material in the Work and be paid for both the excavation and the placement of such Materials at the corresponding Contract Unit Prices. Except for Material used for riprap, stone ditch protection, and loam, the Contractor shall replace such excavated Material with other approved Material and properly compact it at no cost to the Authority. The Contractor shall obtain written permission from the Authority before performing

any excavation outside the Project Limits.

Unless expressly provided otherwise, the Contractor shall remove and assume Ownership of all incidental Structures and Materials to be removed such as guardrail, Drainage pipe, Culverts, curbing, Bridges, and other manufactured Materials. Utility Facilities, traffic control devices, and lights, together with all supporting Structures, are excluded from the provisions of this Section 104.3.13. The cost of removal of such Structures and Materials is Incidental to the Contract unless expressly provided otherwise.

104.3.14Interpretation and Interpolation - The Contractor is responsible for all interpretations and interpolations made from information provided in the Bid Documents and Contract, including data and test results related to location, survey, hydrology, hydraulics, soils, ledge quality, existing Structures, Environmental Information, and Geotechnical Information. For related provisions, see Sections 102.3 - Examination of Documents, Site, and Other Information; 102.5.2 - Bidder's Duty To Notify Authority If Ambiguities Discovered; 104.3.3- Duty to Notify Authority If Ambiguities Discovered; and 105.6 - Construction Surveying.

104.4 - Communication and Coordination

104.4.1 Partnering

A. Definition, Purpose, and Applicability Partnering is a process of voluntary structured communication between the Authority, the Contractor, its principal Subcontractors and suppliers, and other Project stakeholders for the purpose of improving efficiency and minimizing Disputes. Partnering, including the establishment of a partnership charter, does not in any way waive, alter, or otherwise affect any provision of the Contract. For a related provision, see Section 111.1.3 - Relationship to Partnering.

Participation in Partnering is voluntary; either party may elect to not participate in Partnering for any reason. The associated costs of Partnering will be agreed to mutually and shared equally.

B. Initial Partnering Workshop If the Contractor and the Authority elect to participate in Partnering, representatives of both parties will arrange an initial Partnering Workshop. The Construction Program Manager and the Superintendent will determine Workshop attendees, agenda, duration, and location. The product of the initial Partnering Workshop will be a partnership charter. This charter will include mutually agreed upon Project goals and communication escalation procedures.

104.4.2 Preconstruction Conference - After the Contract has been executed and before the start of on-site construction by the Contractor, the Construction Program Manager and/or the Resident will schedule a preconstruction conference that must be attended by the Superintendent. Others may be invited to attend, including Subcontractors, local government representatives, environmental regulators, public relations firms, emergency service personnel,

Utility Companies, municipal officials, impacted business representatives and/or landowners, or other Project stakeholders.

The agenda of the preconstruction conference may include, but is not necessarily limited to, the following topics:

A. Bid Amendments
B. Project Specific Permit Requirements
C. Special Provisions
D. Review of Plans and Notes on Plans
E. Pre-Construction Submittals
(1) Bonds - 103.5.1, 110.2.1
(2) Insurance Certificates - 103.5.2, 110.3
(3) Safety Program Information -105.2.1
(4) Emergency Contact List - 105.2.2
(5) Traffic Control Plan (if required) - 652
(6) Certification of Installation of Initial Traffic Controls (if required)
(7) Schedule of Work - 107.4.2
(8) Projected Payment Schedule - 107.4.3(if required)
(9) Soil Erosion and Water Pollution Control Plan - 656
(10) Certification of Installation of Initial Erosion Controls - 656
(11) Subcontractor's List and Certifications - 104.5.3
(12) Quality Control Plan - 106.4 (if required)
(14) Site Specific Safety Plan - 105.2.1
(15) Working Drawings Submittal Schedule
(16) Survey Layout Plan
F. Utility Coordination - 104.4.6
G. Bridge Restriction Notification (if required) - 104.4.10
H. Wage Rates - 104.3.8
I. Communications
(1) Outstanding Contractor request for information (RFIs), if any - 104.4.4
(2) Anticipated issues, Disputes, or claims (if any) - 104.4.5

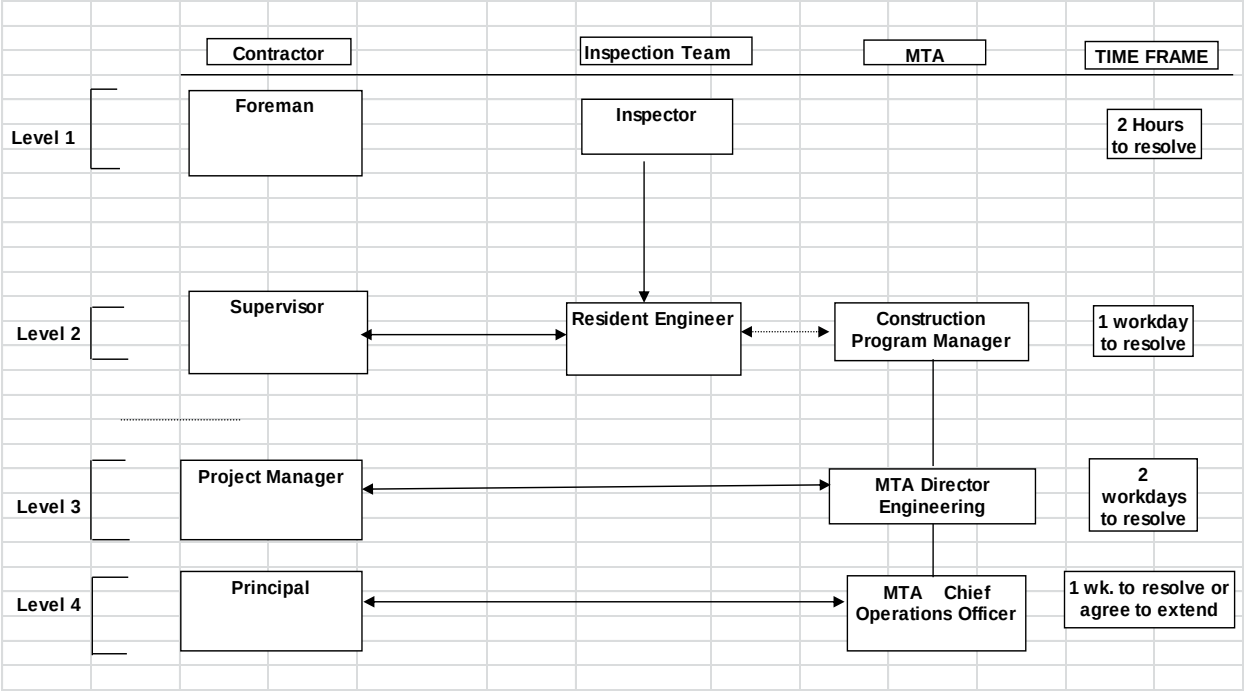
The Resident will prepare minutes of the preconstruction conference and distribute them to all attendees. Any requests to revise the minutes must be made to the preparer within 7 Days of Receipt. These minutes will constitute the final record of the meeting.

For related provisions, see Sections 104.4.6(A) - Preconstruction Utility Conference; 652 - Implementation of Traffic Control Plan, Preconstruction Field Review (if required); 656.4.1 - Temporary Soil Erosion and Water Pollution Control, Preconstruction Field Review; and 106.4 - Quality Control.

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 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:



104.4.3 Progress Meetings - Except as provided otherwise in this Section 104.4.3 - Progress Meetings shall be held at regular intervals, but at least monthly, throughout the duration of the Contract. The Resident and the Superintendent will co-chair Progress Meetings. All personnel of the Authority and the Contractor who have significant information relevant to agenda items shall attend. Others may be invited to attend including Subcontractors, , municipal officials, environmental regulators, emergency service personnel, Utility Companies, impacted landowners, impacted business representatives, public relations firms, or other Project stakeholders.

The Co-Chairs shall agree upon the Agenda for each Progress Meeting, which may include, but not necessarily be limited to:

A) Progress of Project since the last Progress Meeting
B) Expected activities before the next Progress Meeting
C) Contractor's Schedule of Work
D) Progress Payments
E) Field observations
F) Project control logs
G) Anticipated Traffic Delays or Related Issues
H) Working Drawing Submittals
I) Updates to Pre-Construction Submittals (if any)
J) Contract Modifications, RFIs, correspondence (if any)
K) Material deliveries
L) Safety Issues
M) Utilities
N) Issues, Disputes, claims and resolutions (if any)

The Resident will prepare minutes of these meetings 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 Progress Meeting.

In lieu of a Progress Meeting, the Resident and the Superintendent may exchange written communication (letter, fax, or e-mail) before or on the scheduled Progress Meeting date that indicates there is no need for the meeting because the Work is on schedule, compensation is current, communication is ongoing, and there are no significant outstanding or anticipated issues, Disputes or claims. The Superintendent's written communication shall also contain a description of: (A) progress of the Project since the last Progress Meeting or communication in lieu thereof and (B) expected activities before the next scheduled Progress Meeting.

104.4.4 Requests for Information - Either the Authority or the Contractor may request that the other party provide information that the requesting party needs to fulfill its Contract obligations by Delivering a written Request for Information (RFI). The request must: (A) be of reasonable scope limited to one subject, (B) explain why such information is necessary to fulfill Contract obligations, and (C) provide a requested response time, which must be reasonable in relation to its scope (at least 72 hours). The party receiving an RFI shall use its best effort to respond to the RFI within the time requested. The response shall be in writing. The status of outstanding RFIs shall be discussed at each Progress Meeting.

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. All questions contained in a single RFI must relate to the same subject.

104.4.5 Early Negotiation

A. Notice Required When the Contractor becomes aware of facts or circumstances that may cause the Contractor to seek additional compensation, time, or any other change in Contract requirements ("Issue"), then the Contractor shall notify the Resident within 48 hours and before commencing any part of the Work relating to the Issue. The notice must describe the basic nature and extent of the Issue.

Such notice may not be verbal. Notice shall be in the form of a written memo signed by the Contractor with receipt acknowledged in writing by the Resident.

The written notice or confirmation will be known as a "Notice of Issue for Consideration". The Contractor will not be entitled to any additional compensation, time, or any other change to Contract requirements without a timely Notice of Issue for Consideration.

B. Negotiation When the Resident receives the Notice of an Issue for Consideration Conforming to Section 104.4.5(A) - Notice Required, the Resident and the Contractor will negotiate to attempt to resolve the Issue. Any resolution will be noted in the Progress Meeting minutes or confirmed otherwise in writing by the Authority. Any changes to the Contract that affect compensation, time, quality, or other Contract requirements shall be by written Contract Modification as provided by Section 109.8 - Contract Modifications.

For related provisions, see Sections 109.5 - Adjustments for Delay and 109.7 - Equitable Adjustments to Compensation and Time.

104.4.6 UtilityCoordination

A. Pre-construction Utility Conference: A pre-construction utility meeting may be held to coordinate the Work of the Contractor and the Work of affected Utility Companies. Usually this meeting will be held on the same day as and immediately before the pre-construction conference provided by Section 104.4.2 - Pre-construction Conference but, in any event, will be held before the start of on-site construction by the Contractor that affects Utility Facilities. The Authority for the Project, the Construction Manager, the Resident, the Contractor's Superintendent, and a representative of each affected Utility Company will be invited to attend. The Authority will prepare minutes of the pre- construction utility meeting and distribute them to all attendees. Any requests to revise the minutes must be

made to the Authority within 7 Days of distribution. These minutes will constitute the final record of the meeting. For a related provision, see Section 104.4.2 - Pre-construction Conference(s).

B. Utilities Within Right-of-Way: Except as provided otherwise in the Contract including but not limited to subsection E - Temporary Relocations below, all Utility Facilities of all Utility Companies within the Right-of-Way will be relocated and adjusted as provided in the Contract by and at the expense of the affected Utility Company, provided, however, that the Contractor is responsible for scheduling its Work in accordance with the time allowed for utility relocation as provided in the Contract. Utility relocation Work may not proceed without authorization from the Department.

C. Contractor's Responsibilities

1) Utility Coordination –The Contractor has primary responsibility for coordinating their work with utilities after contract award. The Contractor shall communicate directly with the utilities regarding any utility work necessary to maintain the Contractor's schedule and prevent project construction delays. The Contractor shall notify the Resident of any issues. The contractor shall plan and conduct their work accordingly.

2) The Contractor must exercise every reasonable precaution to prevent damage to Utility Facilities or interruption to utility services known to or discovered by the Contractor, whether or not shown on the Plans. Such precautions must include notice to Utility Companies before undertaking Work that could damage Utility Facilities. The Contractor must provide each Utility Company with notice at least three Business Days before the date a Utility Company will have to support any pole.

3) The Contractor must take all reasonable precautions to determine the presence of underground Utility Facilities before commencing any excavation Work and must provide all affected Utility Companies with at least 72-hour prior notice of the proposed excavation. The Contractor must comply with 23 MRSA § 3360-A, entitled "Protection of Underground Facilities," Maine's "Dig Safe" statute and also contact the non-member underground facility operators in the Maine Public Utilities Commission's **"OK-TO-DIG"** directory. **Contractor shall coordinate with Resident to have MTA utilities located.**

4) The Contractor must maintain initial markings (spray paint, stakes, etc.) made by the authorized representative of a Utility Company to indicate the location of underground Utility Facilities and otherwise comply with 23 MRSA § 3360-A(4).

5) The Contractor must cooperate with Utility Companies in their relocation or operations so that these operations proceed in a logical sequence, minimize duplication of Work, and avoid unnecessary interruptions to utility service.

6) If utility services are interrupted as a result of the Contractor's Work, the Contractor must Promptly notify the appropriate Utility Company and must cooperate fully in the restoration of service. If service is interrupted, repair Work will be continuous until the service is restored. No Work can be undertaken around fire hydrants until the local fire authority has approved provisions for continued services.

7) The Contractor must schedule its Work so as to provide for all Utility Company Work and to complete the Work within the Contract Time. The estimated number of workdays required by each Utility Company to perform its relocation Work contained in the Contract is provided by the Utility Companies and are estimates only. Such Utility Facility relocation times assume normal Working times (Monday through Friday, 8 hours per day), and are dependent upon normal weather, normal Working conditions, and freedom from emergencies. The Authority is not responsible for the accuracy of these estimates. If a Utility Company fails to perform its Work within the time frames set forth in the Contract or in the minutes of the pre-construction utility conference, and such failure impacts the Contractor's Critical Path, the Contractor may request a suspension of Work pursuant to Section 107.5.2 and such Delay will be analyzed in accordance with Section 109.5 - Adjustments for Delay.

8) Any clearing and tree removal that is a part of the Contract and that must be done in areas where Utility Companies are involved must be completed by the Contractor before the Utility Company can relocate its Utility Facilities. Any clearing, cutting of single trees, or limbing required for the temporary or permanent Utility Facility location must be approved by the Authority. The Contractor must provide the Authority with notice of at least 4 Days before removing or trimming any trees or other vegetation.

9) If blasting occurs on the Project, the Contractor must provide each Utility Company having Utility Facilities that could be damaged by the blast with at least 24-hour prior notice that includes the anticipated time of the initial blast.

10) If the Contractor actually observes a Utility Company Working within the Project Limits in a manner that (a) obviously violates the MUTCD, the Contractor's Traffic Control Plan, or an applicable OSHA requirement or commonly accepted safety practices, and (b) represents a clear and immediate risk of significant bodily injury to any person within the Project Limits, then the Contractor must notify the Resident and the Utility Company immediately.

11) The Contractor agrees to indemnify, defend, and hold harmless the Authority from and against any and all claims or causes of action arising from any act or omission of the Contractor, the Subcontractors or their respective agents, representatives, or employees for failure to comply with this Section. This clause is not meant to limit in any way the Contractor’s general indemnification obligations under this Contract

D. Temporary Relocations The Contractor may request temporary changes of location of Utility Facilities for the Contractor's convenience. The Contractor must satisfy the

Authority that the proposed temporary change will not interfere with the Work, the Work of Utility Companies, or the Work of other Contractors and will not impede the free and safe flow of traffic. If acceptable to the Authority, the Contractor may make its own request to the Utility Company or other party affected by such temporary changes. The expense and risk of temporary changes will be borne solely by the Contractor; no changes to compensation or time will be made.

E. Unforeseeable Utility Relocations The Authority may order utility adjustments in accordance with Section 109.4 - Differing Site Conditions.

F. Cost The cost of all Work related to utility coordination is Incidental to the Contract.

104.4.7 Cooperation With Other Contractors

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, and Contractor shall cooperate with all such efforts at no additional cost to the Authority.

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.

104.4.8 Coordination with Railroads - The Contractor shall: (A) perform Work within a railroad Right-of-Way without interfering with trains or railroad company traffic and (B) coordinate all Work crews and the Contractor's Schedule of Work to accommodate the railroad company Work. If the Bid Documents clearly show that Materials must be hauled across railroad tracks, the Authority will make preliminary arrangements with the railroad to permit such hauling. The Contractor shall, at its expense, negotiate and enter into any other

Agreements with the railroad.

Special Provision will provide any additional conditions or requirements regarding railroad coordination.

104.4.9 Coordination with Marine Traffic - The Contractor shall not interfere with free and safe navigation of navigable waters except as provided by permit issued by the US Coast Guard and other applicable regulatory agencies. All Work must comply with all US Coast Guard permit conditions and all applicable Federal regulations affecting navigation.

When the basic nature and scope of marine traffic requirements is provided or referenced in the Bid Documents or is otherwise known or foreseeable to the Contractor, then the Contractor assumes all risks and liability associated with said requirements and the Contractor shall indemnify and hold harmless the Authority from all claims related to the maintenance or obstruction of marine traffic that arise from the Contractor's acts or omissions.

104.4.10 Coordination of Road Closure/Bridge Closure/Bridge Width Restriction Notification - 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 general notification to the public, though the Contractor shall be fully and solely responsible for safety of the travelling public in the vicinity of the closure or restriction, including but not limited to compliance with traffic control planes. The Authority shall have the right to deny permission for any restriction or closure and to require the removal of any existing restriction or closure without cost to the Authority.

The closure shall be announced on a minimum of two portable/changeable message signs, placed in approved locations, beginning at least 10 days prior to the closure.

104.5Subcontracting

104.5.1 Limits on Subcontracting - The Contractor shall perform at least 30% of the value of the Work with its own Work force, excluding any specialty items as designated in the contract documents by the Authority.

The Contractor shall not carry the Workers of another Contractor or firm on its payroll or a Subcontractor's payroll. The Contractor shall not use any Subcontractors that are debarred from Bidding by the Federal Government or any agency of the State of Maine.

104.5.2 Contractor's Duties Regarding Subcontractors - Subcontractors are solely the responsibility of the Contractor. The Contractor is responsible for assuring that its Subcontractors have sufficient skill and experience to perform the Work properly and for coordinating and managing its Subcontractors to achieve the intent of the Contract. The Contractor agrees to indemnify, defend, and hold harmless the Authority from and against all claims and causes of action arising out of any act or omission of Subcontractors, their agents,

representatives, and employees. The Contractor agrees to indemnify the Authority and hold the Authority harmless from any claims asserted by its Subcontractors including any claims to recover losses allegedly suffered by a Subcontractor. Subcontracting does not alter or diminish the Contractor's obligations under the Contract. For a related provision, see Section 105.1 - Intent of the Contract.

104.5.3 Documentation Regarding Subcontracting - before any Work is performed by a Subcontractor, the Contractor shall provide the Authority a list of all Subcontractors that the Contractor anticipates will be providing Work within the Project Limits. The Contractor shall continuously update the Subcontractor information and provide it to the Authority throughout the duration of the Project.

If requested the Contractor shall provide the Authority with copies of any subcontract or other document that establishes the relationship of the Contractor and any Subcontractors.

104.5.4 Discharge of Subcontractors - The Authority, upon written notice to the Contractor, may require that the Contractor discharge any Subcontractor without cost or liability to the Authority. If the Authority determines that a Subcontractor's performance jeopardizes the intent of the Contract otherwise, the Authority may, but is not required, to notify the Contractor of such a determination. Such notice, or lack thereof, does not affect the Contractor's duties regarding Subcontractors. Upon Receipt of such notice, the Contractor shall take any action it determines is necessary to fulfill its obligations under the Contract. The Authority does not have any duty to take any action under this paragraph, and neither the exercise of the Authority's rights under this paragraph nor the non-exercise of those rights will relieve the Contractor of its sole responsibility for the performance of Subcontractors. For related provisions, see Sections 104.3.4 - Workers and Equipment, 104.5.2 - Contractor's Duties Regarding Subcontractors, 105.1 - Intent of the Contract, and 105.2 - Health and Safety.

104.5.5 Prompt Payment of Subcontractors

A. Pay When Paid: The Contractor shall pay Subcontractors in full for all Work satisfactorily performed and Invoiced by the Subcontractor no later than 30 Days from the date the Contractor receives payment from the Authority for such Subcontractor's Work. Contractor will ensure that its Subcontractors pay all of their-Subcontractors, including suppliers and material men, no later than 30 days from the date they receive payment from the Contractor.

B. Retainage: The Contractor shall return to the Subcontractor all retainage withheld from the Subcontractor within 30 Days after the date the Subcontractor's Work is satisfactorily completed. If there is a Delay in such return of retainage, the Subcontractor may pursue all rights it may have under the claims procedure referenced in Section 104.5.6 - Subcontractor Claims for Payment.

104.5.6 Subcontractor Claims for Payment - The Contractor agrees to notify all Subcontractors of the claim filing procedure of Payment and Performance bonds required by

110.2.1. The Department may use retainage and other remaining project funds to pay outstanding claims for Accepted Work.

104.5.7 Flow Down - All subcontracts of the Contractor, and all lower tier subcontracts, shall contain or reference all applicable provisions of the Contract, including all safety, wage, Prompt payment, labor, environmental, and equal opportunity provisions. The Contractor indemnifies and hold harmless the Authority against any and all claims or liabilities arising from the failure to include such flow down provisions and agrees that any such claims and liabilities may be paid by the Authority using retainage, other Project funds, or as a setoff from payments otherwise due to the Contractor on this or other Contracts.

104.5.8 No Third Party Beneficiaries - The Contractor and the Authority agree that this Contract is not intended to create any third-party beneficiaries or to authorize anyone not a party to the Contract to maintain an action under Contract provisions.

104.5.10 Warranty and Maintenance Bonds - Warranty and Maintenance Bonds may be required of the Contractor or a subcontractor for specified items that the Department deems appropriate. Specific requirements will be given via Special Provision. These bonds may be for specified items in the Contract Schedule of Items. The Bond must name the "Maine Turnpike Authority" as an oblige. The Contractor shall provide a copy of said bond to the Authority before the performance of any affected on-site Work. Should a subcontractor be required by special provision to provide a Warranty or Maintenance Bond, the Contractor hereby authorizes the Authority to directly contact that Subcontractor and/or its Surety in the event of a failure of the bonded item to perform as specified.

SECTION 105 - GENERAL SCOPE OF WORK

Scope of Section - This Section contains Work requirements that are generally within the scope of all Projects. These include provisions related to health and safety, traffic control, maintenance of Work, hauling of Materials and Equipment, construction surveying, Working Drawings, the environment, historic and archeological considerations, equal opportunity and civil rights. This Section is not all-inclusive. The scope of these items is often described more specifically and fully elsewhere in the Contract Documents.

This Contract is not federally funded, unless expressly provided otherwise in the Bid Documents.

105.1 Intent of the Contract - The intent of the Contract is to provide for the construction and Completion of a functionally complete Project in Conformity with the Contract. The Contractor shall furnish all Work to achieve this intent including all Work that may be reasonably inferred to be required from the Contract or from prevailing industry or trade custom, whether or not specifically called for.

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 Health and Safety

105.2.1 Safety Responsibility - The Contractor has the overall responsibility to maintain safety of their employees and of all other persons in the work area or on the worksite. The Contractor shall provide all safeguards, safety devices, and protective Equipment and take all other action that is necessary to continuously and effectively protect the safety and health of all persons from hazards related to the Work. Such safeguards include providing a sufficient number of security guards.

105.2.2 Health and Safety Plan - A copy of the Contractor's Health and Safety Plan must be on file with the Engineering Department of the Authority prior to commencement of work. A copy of the Safety Plan will be provided to the Authority in an electronic media format prior to commencement of work. The Contractor shall designate which portions of such submission, if any, it considers confidential business information. If such program is revised during the Contract Time, the Contractor shall provide the updated program to the Authority. The Contractor shall comply with its safety program and this Section 105.2 - Health and Safety. The Contractor shall be responsible for all claims or damages arising from failure to so comply and indemnifies and holds harmless the Authority from all claims and damages arising from such non-compliance.

105.2.3 Project Specific Emergency Planning - Unless the Contract provides for closure of an existing facility, the Contractor shall ensure that essential police, fire, rescue, and ambulance services have reasonable and timely access to and through the Project Limits. The Contractor shall contact all emergency service providers in the area, discuss potential impacts on emergency operations (including water supply for fire suppression), and minimize any negative impacts. Fire hydrants within or adjacent to the Project Limits shall be kept accessible to fire apparatus at all times, unless the fire department agrees otherwise in writing. For a related provision, see Section 104.3.12 - Forest Protection and Laws.

If the nature of the Work involves deep trenching, confined spaces, toxic chemicals, or any other unusual hazards that could require specialized rescue, the Contractor shall inform and cooperate with the appropriate fire department, rescue service, or EMS.

The Contractor shall provide the Resident with and post and maintain in conspicuous places

within the Project Limits, a list containing (A) emergency response numbers with the names and telephone numbers (including cellular phone and pager numbers, if applicable) of local ambulance, police, fire, rescue, and hospitals, (B) emergency response numbers for hazardous Materials spills as required by Section 656.3.4(f) - Spill Prevention, (C) the Contractor's personnel with phone numbers who may be reached in case of emergency, and (D) the Authority's personnel with phone numbers who may be reached in case of emergency.

105.2.4 Unsafe Conditions - The Contractor will immediately eliminate all unsafe conditions brought to the Contractor's attention by the Resident or any other Authority staff. If the Contractor actually observes any person(s) performing Work in a manner that (A) the observing party actually knows is not in compliance with the MUTCD, the TCP, an applicable OSHA requirement, or commonly accepted safety practices, and (B) creates a clear and immediate risk of significant bodily injury to any person, then the observing party shall immediately notify such person(s) Working in an unsafe manner and the other party to the Contract. The Contractor and the Authority agree to cooperate in eliminating all such unsafe conditions. For related provisions, see Sections 104.3.4 - Workers and Equipment, 104.4.6 - Utility Coordination, 105.3 - Traffic Control and Management, and 105.4 - Maintenance of Work. Nothing in the foregoing 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. {Neither the Resident or any other Authority staff member or agent is responsible for jobsite safety.}

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.

105.2.5 Compliance with Health and Safety Laws The Contractor shall comply with all applicable federal, State, and local laws, regulations and Authority policies governing safety, health, and sanitation including all applicable laws and regulations of OSHA. The Contractor shall comply with these laws and regulations and ensure compliance by its subcontractors. The Contractor is responsible for correcting any health and safety violations.

For related provisions, see Sections 105.2.3 - Joint Duty Regarding Safety, 105.3 - Traffic Control and Management, and 105.4 - Maintenance of Work.

105.2.6 Convenience of the Public - At all times the Contractor shall perform the Work to minimize obstructions to pedestrian, vehicular, railroad, and marine traffic. All temporary and permanent pedestrian access ways must comply with the Americans with Disabilities Act (ADA). Footways, gutters, sewers, inlets, and portions of the Highway adjacent to the Work must not be obstructed unless allowed by the Contract.

If the Contractor receives notice from the Authority that the Contractor has failed to comply with the provisions of this Section 105.2 - Health and Safety, the Contractor shall remedy such non-compliance immediately. If the Contractor fails to do so, the Authority may remedy such non-compliance by any means and deduct the cost of the remedy from amounts otherwise due the Contractor.

105.2.7 Use of Explosives - The use of explosives is permitted, however, prior to any blasting the Contractor must submit a detailed blasting plan to the Resident at least three (3) weeks prior to commencing drilling and blasting operations. The blasting plan shall contain the following information:

a. Site plan with location of nearest structures and abutters. Plan shall also show the location of all private wells;

b. Plan of each blast showing hole-spacing and delay pattern;

c. Diameter and depth of each hole;

d. Amount of explosive per hole;

e. Total pounds of explosives per delay;

f. Total amount of explosives per blast;

g. Type of non-electric delays to be used;

h. Amount of stemming in each hole;

i. Type of explosive to be used;

j. Soil and rock profile in blast zone;

k. Scale distance to the nearest abutting structure;

l. Type and location of seismograph to be used;

m. Size of blasting mats and cover to be used; and,

n. Safety precautions to be followed.

After submission of the blasting plan, but prior to the start of the blasting program, the blasting Contractor shall meet with the Resident, Maine Turnpike Authority officials, State Police (turnpike barracks), and affected utility representatives. The purpose of the meeting is to advise them of their blasting plan and schedule, accept feedback on the proposed plan, and coordinate the blasting effort.

Should field conditions warrant a change in the general blasting plan, the blasting Contractor shall provide a sketch and blasting plan details based on the actual field conditions prior to the blast for inclusion in the Project records.

The following general requirements are to be adhered to:

A. Blasting permits shall be obtained by the Contractor from all local, State and Federal agencies having jurisdictions. Blasting will not be authorized by the Resident without proper permits.

   The Contractor shall comply with all applicable laws, rules, ordinances, and regulations of the Federal Government, the State of Maine, and the city or town governing the transportation, storage, handling, and the use of explosives. All labor, materials, equipment, and services necessary to make the blasting operations comply with such requirements shall be provided at no additional costs to the Authority.

   The Contractor shall obtain and pay for all permits and licenses required to complete the work of this Section.

   In case of conflict between regulations or between regulations and Specifications, the Contractor shall comply with the strictest applicable codes, regulations or Specifications.

B. Obtain the services of a qualified vibration and blasting expert to monitor the blasting. All seismographic instruments shall be capable of producing a permanent record of the information required to determine the particle velocity at any time during all phases of the blasting operation. A copy of all recording shall be furnished to the Authority within two (2) working days after a blast. Seismographic recordings shall be taken at the critical locations and additional instruments shall be furnished, located and operated as deemed necessary by the Resident.

   Persons responsible for blasting shall be Licensed Blasters in the State of Maine and shall have had acceptable experience in similar excavations in rock and controlled blasting techniques.

C. Non-electric detonation systems shall be used. Electric blasting caps will not be permitted.

D. The Contractor shall conduct all blasting activity in such a manner that the peak particle velocity of ground vibration, measured at the locations of the nearest structures to the blast, does not exceed the "safe limits" recommended by the U.S. Bureau of Mines in

FIGURE B of BUMINES RI 8507, as follows:

FIGURE B

BUMINES RI 8507

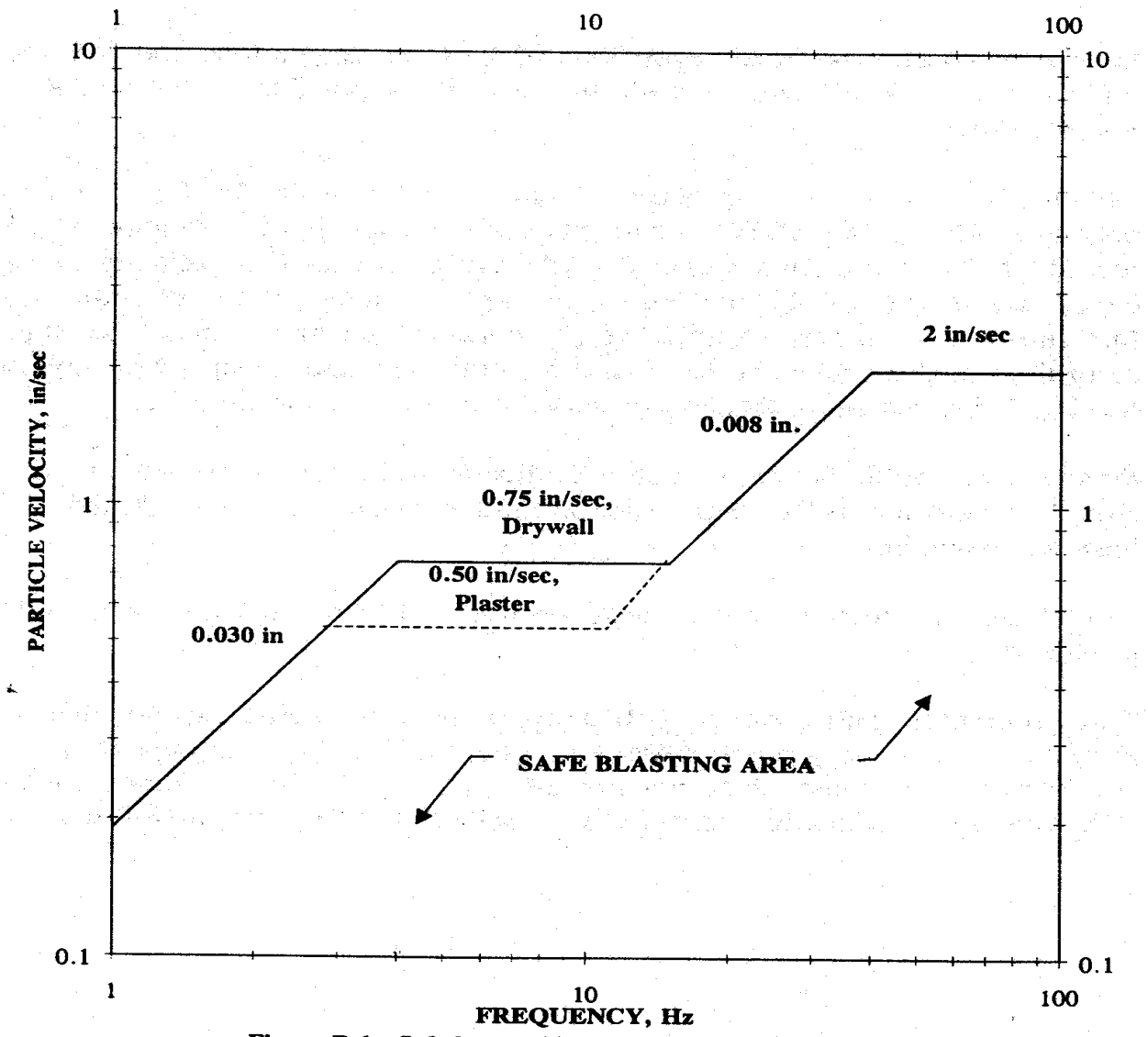


Figure B-1 - Safe levels of blasting vibration for houses using a combination of velocity and displacement

ALTERNATIVE BLASTING LEVEL CRITERIA

E. The Contractor shall conduct all blasting activity in such a manner that the peak airblast overpressure measured at the locations of the nearest above ground occupied structures to the blast (considering wind direction) does not exceed 0.014 psi.

F. Scaled distance factors permitted for various distances from blast:

Distance from blast site (ft)	Scaled distance factor to be used without seismic monitoring (ft)
0 to 300	50
300 to 5000	55
5000 and beyond	65

G. The Contractor shall advise the Resident at least five (5) working days in advance of the dates on which he proposes to perform blasting operations, providing an approximate hour for the Resident's approval. The Authority will provide police at the turnpike site, who will stop traffic in both directions while the blast is detonated. The Contractor will be responsible for obtaining the necessary permits and police officials required to close local streets during periods of blasting.

H. Safety Precautions

1. Clearing Danger Area Before Blasting - no blasting shall be permitted until ***all*** personnel in the danger area have been removed to a place of safety. A loud, audible warning system, devised and implemented by the Contractor, shall be sounded before each blast. The Contractor shall familiarize all personnel on the Project, Authority, Police Officers, Residents, and the general public with the implemented system. The danger area shall be patrolled before each blast to make certain that it has been completely cleared, and guards shall be stationed to prevent entry until the area has been cleared by the blaster following the blast.

2. Explosives shall be stored, handled and employed in accordance with Federal, State and local regulations.

3. No explosives, caps, detonators or fuses shall be stored on-site during non-working-hours.

4. Blasting mats may be used to cover the top and vertical face of all blasts in order to minimize the possibility of excessive throw of rock. The use of blasting mats is not required.

5. The Contractor is advised that the Authority's Maintenance Forces and State Police use two-way radios in the vicinity of the Project. These radios cannot be

turned off during loading operations. Therefore, non-electric detonation systems shall be used. Electric blasting caps will *not* be permitted.

6. The Contractor shall be responsible for determining any other safety requirements unique to blasting operations at these particular sites so as not to endanger life, property, utility services, any existing or new construction, or any property adjacent to the site.

7. No requirements of, or omissions to, require any precautions under this Contract shall be deemed to limit or impair any responsibility or obligations assumed by the Contractor under or in connection with this Contract; and the Contractor shall at all times maintain adequate protection to safeguard the public and all persons engaged in the work, and shall take such precautions as will accomplish such end, without undue interference to the public. The Contractor shall be responsible for and pay for any damage to adjacent roadways or structures resulting from work executed under this Section.

8. The Contractor is required to secure all travelways, entrances and exits within 300 feet of the blast zone. No vehicles or pedestrians will be allowed within the 300-foot-zone until the blast is complete, all debris is cleaned from the roadways, and the site is deemed safe by the Resident.

I. General Blasting Procedures

1. The time during which explosives may be restricted to non-peak travel periods. The use of explosives is not permitted on Friday, weekends (Saturday and Sunday), holidays, on the eve of a holiday, or during non-daylight-hours unless approved in writing by the Resident. A blast may be allowed early on a Friday morning before 6:00 a.m. if it can be completed during daylight-hours. Specific allowable blasting times are outlined in the Special Provisions. In order to minimize traffic disruptions, the Contractor shall schedule blasting such that all disrupted traffic shall be cleared between any two successive blasts detonated anywhere on the Project. The Contractor will be allowed as many mainline traffic stoppages as can be cleared in the designated blasting window, provided the blast schedule can be safely coordinated. Each stoppage will be counted as one complete stoppage of mainline traffic. The Authority may withhold permission to blast if, in the opinion of the Authority, actual or anticipated traffic volumes will produce mainline or local road congestion that cannot be cleared in a reasonable amount of time. The Contractor's blasting operations shall be performed using extreme care to minimize the inconvenience and interruption to traffic and damage to the existing pavement, structures and surrounding areas.

2. The Contractor shall have sufficient equipment available on-site to clear the pavement of blast rock, if it is necessary. At a minimum, the Contractor shall

have a vehicle to sweep the pavement and a half-ton pickup equipped with a plow. The blast will not be allowed to occur if this equipment is not present.

3. The Contractor shall coordinate all blasting with the Resident on-site who shall determine in advance when the charges may be set.

4. Blast hole diameter shall not be greater than three inches.

5. No free flowing, pourable or pumpable explosives shall be used unless approved by the Resident. All explosives shall be in cartridges or other semi-rigid containers.

J. Pre-Blast Condition Survey

The Contractor shall provide a pre-blast survey as described below:

Prior to start of excavation (earth/rock) or blasting work, the Contractor shall conduct a pre-blast condition survey of all existing structures and conditions on the site, adjacent to the site, or in the vicinity of the site. This survey shall extend to such structures or conditions as may be affected by the Contractor's construction operations. As a minimum, condition surveys shall be performed on all structures within 500 feet of anticipated blasting areas. The Contractor is responsible for the following:

1. Coordinate activities, issue notices, obtain clearances and provide whatever photographic and secretarial assistance is necessary to accomplish the survey.

2. Give notice, in writing, to the owner of the property concerned and tenants of the property. Advise in notice, the dates on which surveys are to be made so that they may have representatives present during the examination. Provide copies of all notices to the Resident.

3. The survey shall consist of a description of the interior and exterior conditions of the various structures examined. Descriptions shall locate any existing cracks, damage or other defects existing, and shall include such information so as to make it possible to determine the effect, if any, of the construction operations on the defect. Where significant cracks or damage exist, or for defects too complicated to describe in words, photographs shall be taken and made part of the record.

4. The survey shall include a test of all private wells in the area. Water quality tests shall be obtained so that a baseline condition may be developed.

   Contractor's record of the pre-blast condition survey shall consist of written documentation and photographs of the conditions identified, or a good quality videotape survey with appropriate audio description of conditions and defects.

Prior to start of work, one copy of the Contractor's record of conditions survey shall be submitted to the Resident for review and retention.

Upon completion of all excavation (earth/rock) and blasting work, the Contractor shall make an examination similar to the pre-construction survey of any properties, structures, and conditions where complaints of damage have been received or damage claims have been filed. Notice shall be given to all interested parties so that they may be present during the final examination. Records of the final examination shall be distributed the same as the original preconstruction survey.

K. Payment

No separate measurement or payment will be made for the work outlined in this Section including the detailed blasting program, pre-blast and post-blast surveys, blasting and permit acquisitions. All cost associated with this work shall be incidental to the Rock Excavation item(s).

L. Indemnity

Notwithstanding full compliance with these Specifications, approval of blasting plan, and successful limitation to maximum peak particle velocity noted above, the Contractor shall be solely responsible for any damage, direct or indirect, arising from blasting and shall hold the Authority and Resident harmless from any costs, liens, charges, claims or suits, including the costs of defense, arising from such damage, real or alleged. The Authority and Resident shall be additionally-named insured on any insurance policy covering blasting carried by the Contractor, and this requirement shall also be enforced on any subcontractor.

The Contractor shall provide a pre-blast and post-blast survey including photographs. An inspection of all facilities within and adjacent to the Contract limits shall be made to determine any changes that may occur due to the blasting operations.

The Resident's approval shall not relieve the Contractor of any responsibility for any hazards or damages related to this work. The use of explosives shall conform to all Federal and State laws and regulations. Explosives must not be stored within the turnpike right-of-way. Explosives shall be in the care of competent watchmen at all times, and placement and detonation shall be performed under the direction of a qualified blaster licensed in the State of Maine.

105.3 Traffic Control and Management - The Contractor shall provide continuous and effective traffic control in compliance with Section 652 - Maintenance of Traffic. For Related Provisions, see Special Provision Section 526, Concrete Barrier, and Section 652, Maintenance of Traffic.

105.3.1 Notices Required - The Contractor shall plan paving operations so that the

Resident will have sufficient advance notification to provide the necessary inspection and testing. 48 hours will be considered sufficient notice. In the event that paving is suspended, the 48-hour notification shall be required again before restarting the paving operations unless otherwise agreed by the Resident. A verbal warning will be given before starting the offense process for paving notification.

The Contractor shall plan granular material operations so that the Resident will have sufficient advance notification to provide a proctor for the material to be placed. Sufficient notification will be considered 7 days. Changes in source will also require this notification.

Failure to provide the above notifications will result in the following actions:

First offense - written warning
Second and subsequent - liquidated damages will be charged for one calendar day

105.4 Maintenance of Work

105.4.1 Maintenance During Construction - The Contractor shall maintain the Project and all related Work in a safe and satisfactory condition until Final Acceptance. Such maintenance requires continuous and effective Work conducted daily. Once physical work commences, the Contractor is responsible for maintenance of roads and sidewalks that are open to public travel within the Project limits.

Trenches Where existing pavement carries traffic and is removed, the pavement shall be replaced daily with a temporary pavement consisting of a minimum of three inches of acceptable hot or cold bituminous mixture. Cold bituminous mixture shall contain aggregates, asphalt cutbacks, liquefiers and wetting agents. No separate payment will be made for furnishing, placing, maintaining, and removing temporary pavement, and all cost of such work will be considered incidental to the contract.

Before placing any permanent pavement over backfilled trenches, the edge of the adjoining existing pavement shall be cut even and vertical, and coated with tack coat to form a tight joint between the new and the existing pavements. The permanent pavement depth and type (HMA or PCC) will match the existing roadway structure. No separate payment will be made for cutting and tack coating the joint.

Paved Surface - The Contractor is responsible for maintaining the existing paved shoulder, ramps, and travel lanes on the Maine Turnpike in good condition. Unless specially allowed by special provisions all travel lanes open to traffic must have a paved surface. 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.

If the Contractor fails to meet the conditions of Section 105.4.1, the Authority will notify the Contractor of such failure. The Contractor shall remedy such failure within 4 hours after receiving such notice. If the Contractor fails to do so, this may be considered a traffic control violation in accordance with Section 652 and the Authority may remedy the situation with its own or Contracted forces without liability to the Authority and all costs will be deducted from amounts otherwise due the Contractor. When the Contract involves placing material on, or use of previously constructed subgrade, base course, pavement, or structure, the Contractor shall maintain such previously constructed Work in a safe and satisfactory condition until Final Acceptance.

Except as expressly provided otherwise in the Contract, the cost of complying with this Section 105.4.1 is Incidental to the Contract.

105.4.2 Use of Granular Materials - The Authority may authorize and pay for granular Materials that are capable of supporting traffic and necessary to maintain the specified traffic Lane widths upon the following conditions.

A. The Contractor must prepare the area where the granular Materials are to be used by eliminating objectionable Material and providing adequate temporary Drainage before the granular Material is placed.

B. Quantities of granular Materials will be determined by the most appropriate method of measurement that applies at the time the Material is placed and that is in accordance with the Specifications for the particular type of granular Material authorized for use. For a related provision, see Section 108.1 - Measurement of Quantities for Payment.

C. Payment for granular Material will be made at the Unit Price for the Material authorized for use.

D. Payment as Common Excavation will be made when Material for maintenance of traffic is removed.

105.4.3 Maintenance During Winter Construction

Except as provided in the following paragraphs, when the Contractor performs Work during winter weather conditions, the Contractor shall plow snow from the portions of a Project that carry vehicular or pedestrian traffic, including all Bridges and Sidewalks, so as to allow the free and safe flow of such traffic. The State or local governmental agency that would otherwise be responsible for winter maintenance will sand and salt such portions of a Project.

On such portions of a Project that (A) have been untouched or left by the Contractor in a suitable condition to carry traffic as determined by the Authority and (B) are unaffected by the construction operations, the State or local governmental agency responsible for winter maintenance will plow, sand, and salt.

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

The Contractor is responsible for the maintenance of erosion control and traffic control devices. The Contractor is also responsible for snow plowing and ice removal from all work areas, areas around traffic control devices to maintain visibility of traffic control devices, drainage paths, and catch basins within limits of traffic control, in order to maintain drainage away from the paved travel way. The snow plowing by the contractor shall include the snow plowed to the side of the road by the Authority to the areas listed above. No claims will be allowed from the Authority's snow plowing operations.

105.4.4 Maintenance During Suspension of Work

A. Work Responsibilities Prior to suspension, the Contractor must make the Project suitable for the free and safe flow of traffic as determined by the Authority including covering or removal of signs. To provide space for snow removal, all areas to be used by traffic must be clear for the entire usable Roadway including Shoulders, or curb-to-curb including Sidewalks.

During suspension, the Contractor must: (1) take precautions necessary to prevent damage to the Work and to allow the Authority to provide maintenance (such precautions include providing Drainage and erecting any necessary Structures, signs, or other facilities); (2) maintain all temporary Structures and traffic control devices; and (3) continuously maintain, in an acceptable growing condition, all living plant Material, including newly established seedings and soddings furnished under the Contract and take precautions to protect vegetative growth from damage.

After suspension, the Contractor must clean up all evidence of the snow and ice control at its expense, including removing excess sand and debris from the Roadway and replacing all base or subbase Material that was lost as a result of maintenance activity.

If a Work suspension is not approved, the Contractor will remain responsible for maintaining the Project, including plowing snow, controlling ice, and patching or retreating the surface.

B. Cost Responsibilities All costs related to suspending and resuming Work related to approved suspensions will be considered incidental to the contract. For related provisions, see Sections 104.2.6 – Right to Suspend Work and 107.5 – Suspension of Work.

105.4.5 Maintenance of Existing Structures

When new Bridge or Minor Span is being installed on a new alignment and the existing structure is to remain in service, the Authority will maintain the existing structure and the portions of the roadway required for maintaining traffic until such time that the new structure is opened to traffic and the existing structure is taken out of service. A similar situation exists when a new Bridge or Minor Span is being installed on the same alignment as the existing structure, requiring a temporary detour to be installed by the Contractor per Section 510, Special Detours, prior to removal of the existing structure. In the case, the Authority will maintain the existing structure and the portions of the existing roadway required for maintaining traffic until such time that either the temporary detour is opened to traffic or the Contractor begins any work on the existing structure, including, but no limited to, repairs, modifications, moving, demolition or removal. In either case, once the new structure or temporary detour is opened to traffic, or the Contractor begins any work on the existing structure, the Contractor shall be solely responsible for all maintenance of the existing structure and the portions of the existing approaches that lie outside the new roadway or the temporary detour, respectively. This specification is not intended to supersede Standard Specification Section 104.3.11, Responsibility for Property of Others.

105.5 Hauling of Materials and Equipment

105.5.1 General Requirements - Except as provided otherwise and limited in this Contract, the Contractor may use any public Road or Bridge for the hauling of Materials and Equipment in legally registered vehicles that are carrying legal loads and operating otherwise in accordance with all applicable State or federal laws. If the Contractor violates such laws or the terms of this Contract relating to hauling, the Contractor shall, at its expense, repair damage to any Road or Bridge that the Authority determines was caused by the Contractor to the satisfaction of the governmental entity that maintains the Road or Bridge.

The Contractor must abate any dust nuisances caused by such hauling. For a related provision, see Section 637 - Dust Control and Section 656 - Temporary Soil Erosion and Water Pollution Control.

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 to the Contract.

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	$250

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.

105.5.2 Bond for Use of Municipal Roads - If the Contractor wants to use Roads maintained by a municipality for hauling, the municipality may require the Contractor to purchase a bond for each mile of traveled length. The face value for such bond shall not exceed $50,000/ mile. of traveled length. The face value for such bond shall not exceed $50,000/mile. The cost of said bond shall be Incidental to the Contract.

105.5.3 Posted Roads or Bridges - The Contractor must comply with all restrictions set forth pursuant to 29-A MRSA §2395, including springtime posting of load restrictions. An overlimit movement permit pursuant to 29-A MRSA §2382 will not relieve the Contractor of its obligation to repair damage to such posted Roads or Bridges. For a related provision, see Section 104.3.2 - Furnishing of Other Property Rights, Licenses, and Permits.

105.5.4 Narrow Roads The Contractor shall not haul on Roads having a bituminous surface width of less than 20 feet unless there is no practical alternative.

105.5.5 Overlimit Loads -

A. Within Project Limits Within the Project Limits, the Contractor shall not haul over the base courses, surface course, or accepted subgrades with loads that exceed legal limits, except for Equipment used in grading operations including the preparation of the subgrade.

B. Outside Project Limits Outside the Project Limits, the Contractor must comply with State Law including 29-A MRSA §2382 - Overlimit Movement Permits and Authority regulations before moving vehicles or hauling loads in excess of legal limits. The Contractor is responsible for all damage caused by the movement of loads in excess of legal limits whether under permit or not.

105.5.6 Restrictions on Movement and Storage of Heavy Loads and Equipment on Bridges - The Contractor shall comply with legal load restrictions and with special restrictions required by the Contract when hauling or storing materials, including demolition debris, and moving or storing equipment on Bridges within the Project Limits, that are under construction or completed but not yet open to traffic.

The Contractor shall not operate equipment mounted on crawler tracks or steel-tired wheels on or across concrete or bituminous surfaces, unless otherwise approved by the Resident. The Contract requirements may impose special restrictions on speed, load distribution, surface protection, or other precautions.

When construction operations require crossing an existing Bridge with otherwise prohibited equipment or loads, the Contractor shall use Authority approved methods of load distribution or bridging, at no additional cost to the Authority.

The Contractor will not be relieved of liability of damages resulting from the operation and movement of construction equipment because of issuance of a special permit, or by adherence to any other restrictions imposed.

Unless otherwise allowed by the Contract or approved by the Authority, the Contractor shall temporarily store construction materials, including demolition debris, or park equipment on a Bridge deck during construction in accordance with the following limits, which have been established to reflect typical design live loads:

A. Stockpiles shall not weigh more than 65,000 pounds per 1,000 square feet.

B. Individual stockpiles of materials (including pallets of products, reinforcing steel bundles and aggregate stockpiles) shall not weigh more than 25,000 pounds per 100 square feet, or

C. No single vehicle or piece of equipment shall weigh more than 80,000 pounds and no combination of vehicles, materials and other equipment shall weigh more than

200,000 pounds per span, for span lengths greater than 40 feet.

The Contractor may submit alternate loadings with calculations stamped by a licensed Professional Engineer, within 30 Days prior to placement of the load(s).

105.6 Construction Surveying

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 a minimum of three points. For Projects between 1,500 and 5,000 feet in length the Authority will provide a minimum of five points. For Projects in excess of 5,000 feet in length the Authority will provide at a minimum 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 shall not take advantage of any ambiguity or error contained data provided by the Authority, and upon discovery of any ambiguity or error shall notify the Authority before proceeding as provided by Subsection 104.3.3, Duty to Notify Authority 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.

105.6.2.2 Electronic Design Data and Digital Terrain Model (DTM) - If provided by the Authority at the request of the Contractor, any electronic project design data will not be deemed a part of the contract, and is supplied as a courtesy only. The Contractor shall not take advantage of any ambiguity or error contained in said data, and upon discovery of any ambiguity or error shall notify the Authority before proceeding. The Contractor may convert any electronic data provided by the Authority into a format required by the Contractor's system and equipment at the Contractor's expense.

Any Digital Terrain Model (DTM) to be used for construction shall be submitted to the Authority in a format acceptable to the Authority at least 14 days prior to the pre-construction meeting. In RoadsDTM or LandXML formats are preferred – any other format must be preapproved prior to submittal. No changes shall be made to the electronic model after submittal without prior written consent by the Project Resident. The Authority may review and may provide comments to the Contractor within 14 days of receipt of the DTM submittal

105.6.2.3 Survey Work Plan - The Contractor shall provide a Survey Work Plan to the Authority prior to, or at, the preconstruction meeting.

The Survey Work Plan shall include:

A. Make and model of equipment and software used for project layout.
B. Make and model of equipment and software used for machine guidance and control.
C. Manufacturer-stated specifications for vertical and horizontal accuracy attainable by the equipment.
D. Equipment calibration procedures and date of last calibration.
E. Narrative of methodology used to establish any additional horizontal or vertical project control points. Field notes for new vertical control shall be submitted to the Authority.
F. Site Calibration (Localization) and control verification procedures, including a timetable and tolerances. A Site Calibration report shall be submitted to the Authority, including the values of calculated residuals of each point used in the calibration.
G. Type and locations of base stations to be used, including methodology for establishing on-site base broadcast positions and localization procedures used for off-site bases.
H. Describe methodology used to overcome Real Time Kinematic (RTK) signal losses in a portion or portions of the project, and methodology to ensure signals for both inspection operation areas and construction operation areas (i.e. multiple bases operating simultaneously)
I. Describe procedures used to integrate vertical refinement equipment (i.e. laser); including the process of determining and verifying transmitter set-up location and communicating any necessary adjustments to the machine control equipment.
J. Name(s) and qualifications of the Contractor's designated on-site surveyor(s) or engineer(s) responsible for performing the project layout.

K. Design software and version used to develop the Digital Terrain Model (DTM).

The Authority will review and provide comments to the Contractor within 7 days of receipt of the Survey Work Plan.

105.6.2.4 Contractor Provided Equipment to the Authority - The Contractor shall furnish a Global Navigation Satellite System (GNSS) or Global Positioning System (GPS) Rover and/or Robotic Total Station (RTS) equipment to the Authority with the same capabilities as those used by the Contractor. This equipment shall be compatible with the system(s) used by the Contractor and be provided to the Project Resident prior to commencing Work using electronic layout methods. This equipment shall be readily available to the Authority at times needed by the Authority. Any augmented features (such as laser refinement) used by the Contractor shall be included in the features available on the equipment provided to the Authority.

The Contractor shall provide manufacturer-certified training on the use of the GNSS, GPS and/or RTS equipment and the Contractor's systems to Authority project personnel prior to beginning any Work. This training is for the purpose of providing Authority project personnel with an understanding of the equipment, software, and electronic data being used by the Contractor.

105.6.2.5 Field Layout Specifications - All Work accomplished through electronic layout methods and/or machine control must meet the same accuracy requirements as the conventional grading construction standards detailed in the Standard Specifications. The contractor shall not use GNSS, GPS or RTS equipment for a construction activity that requires a greater precision than the machine's capability as per the manufacturer's recommendation.

105.6.2.6 Basis of Payment - No payment shall be made by the Authority for the Contractor's elected use of electronic methods of project location layout and control. Any delays arising from the operation of GNS, ,GPS, or RTS layout or machine control systems will not result in adjustment to the bid price or quantity of any construction items or be justification for granting any type of contract extension. Any costs incurred through incorrect use of GNSS, GPS, or RTS layout or machine control systems or re-work necessary through their use are the sole responsibility of the Contractor. Training of Authority project personnel in the use of GNSS, GPS or RTS will be paid on a reimbursable basis based on submitted invoices, without Contractor markup.

105.6.3 Quality Assurance - It is the Authority's perogative to perform construction survey quality assurance. Consuruction 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 tthe 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 but not limited to claims arising from 14 MRSA § 7554-A. For a related provision, see Subsection 104.3.11, Responsibility for Property of Others.

105.7 Working Drawings

105.7.1General - The Contractor shall provide all necessary Working Drawings to the Authority for review. The Contractor shall not allow final assembly or fabrication of structural units before the Authority completes its review of the applicable Working Drawings and comments on them. The Contract price shall include the cost of furnishing and revising all Working Drawings.

The Authority's review of and comment on Working Drawings may be limited to basic Contract requirements relating to design compliance and Material type(s). Such review shall not relieve the Contractor of responsibility under the Contract including the overall correctness of Working Drawings including Engineering and mathematical computations, shop fits, and field connections.

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 on the face of the drawing or cover page of the submittal 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 solely 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

105.7.2 Review Times - The Contractor's Schedule of Work shall allow the Department the following review and comment times prior to the start of production. For a related provision, see Section 107.4 - Scheduling of Work.

First Submission: 21 Days or 1 day per drawing, whichever is greater.

Second Submission: 10 Days or 1/2 day per drawing, whichever is greater.

Each subsequent submission: 10 Days or 1/2 day per drawing, whichever is greater.

The above review times shall double for submittals that include design computations.

The Authority may combine separate submissions of analytically common elements of Work and require the per drawing review times set forth above when it determines that the Contractor has divided Working Drawings into separate submissions for the purpose of avoiding said per drawing review times.

Delay caused by exceeding the time periods listed above will be analyzed in accordance with Section 109.5 - Adjustments for Delay.

105.7.3 Cost of Review - The Authority will review the first and second submission at no cost to the Contractor. For subsequent submissions, the Authority will charge the Contractor a rate of $75 per person-hour of review. Such costs will be deducted from amounts otherwise due the Contractor.

105.7.4 Submittal Requirements - The Contractor shall indicate the order of preference for review and return of Working Drawings and organize all Drawings in the order of their importance.

The Contractor shall submit 3 sets of Drawings and an electronic (PDF) copy to the Resident.

All submittals shall use the same system of units as that used in the Authority's Plans.

105.7.5 Review Standards and Procedures - If the first submission does not meet accepted industry standards for Working Drawings or Engineering design Drawings and Specifications, as

determined by the Authority, the entire submission will be returned without review and will be recorded as the first submission. When resubmitted, the review time requirements shall be those applicable to a first submission.

One set of reviewed Working Drawings will be marked with comments and returned to the Contractor. The Contractor shall then revise its Working Drawings accordingly. Except as provided otherwise in the Contract, the Contractor shall furnish the Authority with 2 reproducible copies of the final Working Drawings before construction of the element(s) depicted in the Working Drawing(s).

105.8 Environmental Requirements

105.8.1 Temporary Soil Erosion and Water Pollution Control - The Contractor shall provide continuous and effective soil erosion and water pollution control in compliance with Section 656 - Temporary Soil Erosion and Water Pollution Control.

105.8.2 Permit Requirements -

A. Permits Granted to Authority Permits are to be included in or incorporated by reference into the Bid Documents. If Permits are not so included and the Contractor is aware the Work will impact a regulated resource such as water bodies or wetland, the Contractor shall notify the Authority before Bidding. For a related provision, see Section 102.5.2 - Bidder's Duty to Notify the Authority If Ambiguities Discovered.

The Contractor is responsible for complying with all Permit conditions. If the Contractor desires to modify or seek interpretation of any permit granted to the Authority, it must coordinate any such requests through the Authority.

B. All Other Permits Except as expressly provided otherwise in the Contract, the Contractor, at its expense, shall procure all other environmental or land use Permits, licenses, or other permissions that are necessary or appropriate to perform the Work. At the time of application, the Contractor shall provide the Authority with notice of all applications for such Permits, licenses, or other permissions, and upon request, a copy of all such applications. For a related provision, see Section 104.3.2 - Furnishing of Other Property Rights, Licenses, and Permits.

105.8.3 Wetland and Waterbody Impacts -

A. General Prohibition: Except as specifically allowed by the Contract, there shall be no permanent or temporary impacts to water bodies or wetlands identified on the Plans or otherwise known to the Contractor. For a related provision, see Section 656.3.4 - "Water Pollution Control Requirements".

B. Wetlands Outside Project Limits: If the Contractor desires to conduct an activity

that can disturb the soil in an area that is outside the Project Limits, but is contiguous or in close proximity to such Limits, the area first must be examined and analyzed by a qualified wetlands specialist in order to determine whether wetlands exist, and if so, to delineate them. The Contractor must notify the Authority of all such examinations and analyses and the results thereof. Wetlands so delineated must not be impacted unless properly permitted.

Any fill Material generated from this Project shall not be placed, stored, or disposed of in a wetland at an off-site location unless the Contractor provides the Authority with written evidence that all Permits necessary for such use have been obtained. Such evidence must be signed by the Owner of such site and otherwise acceptable to the Department.

C. Temporary Structures: Temporary or permanent impacts to wetlands are prohibited without proper permitting or modification to existing Permits. Temporary Structures in a waterbody must comply with any Contract provisions regarding Instream Work.

105.8.4 Hazardous Materials - If the Contractor encounters any condition that indicates the presence of uncontrolled petroleum or hazardous Materials, the Contractor shall immediately stop Work, notify the Department, treat any such conditions with extreme caution, and secure the area of potential hazard to minimize health risks to Workers and the public, and to prevent additional releases of contaminants into the environment. Such conditions include the presence of barrels, tanks, unexpected odors, discoloration of soil or water, an oily sheen on soil or water, excessively hot earth, smoke, or any other condition indicating uncontrolled petroleum or hazardous Materials. The Contractor shall continue Work in other areas of the Project unless otherwise directed by the Authority. The Contractor hall utilize approved vendors and comply with all federal, State, and local laws concerning the handling, storage, treatment, and disposal of uncontrolled petroleum or hazardous Material. If the condition meets the definition of a Differing Site Condition under Section 109.4.1, the Contractor may be eligible for an Equitable Adjustment.

105.8.5 Dredge Spoils (Dredge Materials) - Unless otherwise provided in the Contract, dredge spoils may not be used as fill within the Project Limits. Any use or disposal of dredge spoils must be in accordance with all applicable federal and State laws.

105.8.6 Pit or Quarry Requirements -

A. General: Pits or quarries that are sources of Material for the Project, including loam fields, shall meet the requirements of this Section 105.8.6. The Contractor must procure an Agreement from the Owners of such sources stating that the Owners will comply with these requirements. If requested by the Authority, the Contractor will provide the Authority with a copy of such Agreement. The Contractor shall provide the Resident with the center of the source GPS coordinate pairs (latitude and longitude) in decimal degrees (DD.DDDDDD),

name, and town in which the source is located.

B. Excavation: Requirements Surface Material stripped from the pit shall be stored to allow for restoration of the pit. The Contractor shall not excavate from pit faces that are vertical or have an overhang. The Contractor must stop excavating within a 2 horizontal to 1 vertical slope 10 feet inside of a property line of a deposit, even though the Material within the pit may have a steeper angle of repose. The exception may be when an additional Agreement is reached with an adjacent property Owner to allow the extension of a pit onto the adjacent property Owner's land. The Contractor must insure that hazards such as steep pit faces and ponds are protected by flattening slopes or by erecting suitable fencing.

C. Rehabilitation: If the pit is licensed by MDEP or LURC, the Contractor shall follow the rehabilitation provisions of said license. In the absence of such license requirements, pits, including loam fields, shall be rehabilitated as provided below and in Section 657 - Rehabilitation of Pits.

1) Newly opened pits and loam fields from which any Material has been removed for the Project shall be completely rehabilitated, as defined below.

2) Areas of extensions of existing pits from which common borrow, granular borrow, gravel borrow, rock borrow, or loam have been removed for the Project shall be completely rehabilitated.

3) Areas of extensions of existing pits that have become depleted, as defined below, by the removal of other gravel, sand, Aggregate items, or loam for the Project shall be completely rehabilitated.

4) Areas of extensions of pits which have not become depleted by the removal of other gravel, sand, Aggregate items, or loam shall be rehabilitated to the extent of grading the slopes to 1 horizontal to 1 vertical or flatter.

For the purposes of this Section 105.8.6, the following definitions apply:

"Completely Rehabilitated" means grading all areas disturbed as a result of the Project and treating of the ground surface in accordance with Section 657 - Rehabilitation of Pits.

"Depleted" means when the only remaining Material is within 10 feet of a property line on a 1 horizontal to a 1 vertical slope or when the character of the Material so radically changes that it can no longer be used as originally anticipated.

105.8.7 Environmental Non-compliance - Remedies and Costs - The Contractor shall be in non-compliance if it, or Subcontractors at any tier, fail to comply with the terms of this Contract

or, pursuant to Section 104.3.7 - Laws To Be Observed, any applicable environmental or land use law or regulation including Project specific permit conditions.

If the Contractor is in non-compliance, the Authority may, at its discretion:

A. Withhold all Progress Payments, or any portion thereof, during the period the Contractor is in non-compliance;

B. Remedy such non-compliance using Authority forces or another Contractor and deduct all costs incurred by the Authority from Progress Payments. Such costs include direct costs, Project Engineering costs, and Contractor costs from amounts otherwise due the Contractor, and/or

C. Suspend the Work for cause and without cost or liability to the Authority. Said suspension shall continue until the Contractor has addressed all non-compliance issues as directed by the Authority.

The Contractor shall be responsible for any fines and penalties assessed by environmental or land use regulatory agencies due to such non-compliance. Such penalties may be withheld from amounts otherwise due the Contractor. For related provisions, see Sections 108.5 - Right to Withhold Payments and 108.9.3 - Amounts Due the Authority.

105. 9 Historic and Archaeological Considerations - If the Contractor or any Subcontractor discovers any object of potential archaeological or other historic interest, all work that could disturb the object will immediately cease and will not resume until investigation of the object and related deposits have been completed, and if necessary recovered. The Contractor will notify the Authority immediately. (Some non-exclusive first indications of deposits may be burial grounds or campsites of Native Americans that reveal the bones of the dead and implements. Also the exposure of marine fossils or shells found mainly in clay deposits, as well as, exposure of dumps in landfill areas, abandoned campfire sites, and building foundations.)

Any delay of the Contractor's operations resulting from the above will be analyzed in accordance with Section 109.5 - Adjustment for Delay, except that in no event will such delay be a compensable delay.

Any artifacts, specimens, materials or other objects found on or beneath land owned by the Authority belong to the Maine Turnpike Authority.

105.10 Equal Opportunity and Civil Rights - VACANT

105.10.2 Requirements Applicable to All Contracts - Unless expressly provided otherwise in the Bid Documents, the provisions contained in this Section 105.10.2 apply to this Contract.

A. Maine Code of Fair Practices and Affirmative Action: The Contractor must comply with the provisions of Maine's Code of Fair Practices and Affirmative Action, 5 MRSA §781, et seq., and all regulations promulgated thereunder. This Code, at 5 MRSA§784(2), reads as follows.

"During the performance of this Contract, the Contractor agrees as follows:

1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religious creed, sex, national origin, ancestry, age, sexual orientation, physical and/or mental disability. Such action shall include, but not be limited to, the following: Employment, upgrading, demotions, transfers, recruitment or recruitment advertising; layoffs or terminations; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, State that all qualified applicants will receive consideration for employment without regard to race, color, sexual orientation, religious creed, sex, national origin, ancestry, age, physical handicap, or mental handicap.

3) The Contractor will send to each labor union or representative of the Workers with which he has a collective or bargaining Agreement, or other Contract or understanding, whereby he is furnished with labor for the performances of [sic] his Contract, a notice, to be provided by the Contracting Department or agency, advising the said labor union or Workers' representative of the Contractor's commitment under this Section and shall post copies of the notice in conspicuous places available to employees and to applicants for employment.

4) The Contractor will cause the foregoing provisions to be inserted in all Contracts for any Work covered by this Agreement so that such provisions will be binding upon each Subcontractor.

For Contracts exceeding $50,000, 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.

B. Maine Human Rights Act The Contractor must comply with the provisions of Maine's Human Rights Act, 5 MRSA §4551, et seq., and all regulations promulgated thereunder. This Act provides, among other things, that it is unlawful discrimination for any employer to fail or refuse to hire or otherwise discriminate against any applicant for employment because of race or color, sex, physical or mental disability, religion, age, ancestry, national origin, or sexual orientation except when based on a bona fide occupational qualification.

C. EEO Notice to Labor Sources Contractors and Subcontractors that are required by Maine's Code of Fair Practices and Affirmative Action or by federal law to notify a labor union or a representative of workers with which the Contractor or the Subcontractor has a collective or bargaining agreement, contract or understanding through which labor is furnished must provide notice on the letter shown on this page below. The letter must be written on the Contractor's or Subcontractor's letterhead stationery. A list of Maine Department of Labor Career Center Job Service Centers follows the letterform.

To:_____

(Union, employment agency or employee's representative)

_____

(Address)

Subject: Equal Employment Opportunities on

State Project No.: _____

Federal Aid Project No.: _____

Location: _____

Description of Work: _____

For Work related to the construction of the above listed Project to be performed under State Contract No.:_____, I have pledged to provide equal employment opportunities without regard to race, color, religion, sex, national origin, sexual orientation, or disability. This pledge applies to all employees and applicants for employment in connection with:

- Hiring, Placement, Upgrading, Transfer or Demotion
- Recruitment, Advertising or Solicitation for Employment
- Treatment During Employment
- Rates of Pay or Other Forms of Compensation
- Selection for Training, Including Apprenticeship
- Layoff or Termination

Inquiries and complaints should be addressed to:

President's Committee on Equal Employment Opportunity
Washington, D.C. 20425

Signed: _____

_____

(Title)

For: _____

(Contractor)

_____

_____

(Address)

_____

(Dated)

Maine Department of Labor
Career Centers & Job Service Centers

Augusta Career Center
21 Enterprise Drive, Suite 2
109 State House Station
Augusta, ME 04333-0109
Toll Free Phone: 1-800-760-1573
Local Phone: (207) 624-5120
Fax No: (207) 287-6236
TTY Users Call Maine Relay 711
Email: augusta.careercenter@maine.gov

Bangor Career Center
45 Oak Street, Suite 3
Bangor, ME 04401-7902
Toll Free Phone: 1-888-828-0568
Local Phone: (207) 561-4050
Fax No: (207) 561-4066
TTY Users Call Maine Relay 711
Email: bangor.careercenter@maine.gov

Calais Career Center
1 College Drive
Calais, ME 04619-0415
Toll Free Phone: 1-800-543-0303
Local Phone: (207) 454-7551
Fax No: (207) 454-0349
TTY Users Call Maine Relay 711
Email: calais.careercenter@maine.gov

Lewiston Career Center
5 Mollison Way
Lewiston, ME 04240-5805
Toll Free Phone: 1-800-741-2991
Local Phone: (207) 753-9001
Fax No: (207) 783-5301
TTY Users Call Maine Relay 711
Email: lewiston.careercenter@maine.gov

Presque Isle Career Center
66 Spruce Street, Suite 1
Presque Isle, Maine 04769-3222
Toll Free Phone: 1-800-760-1572
Local: (207) 474-4914
Fax (207) 760-6350
TTY Users Call Maine Relay 711
Email: presqueisle.careercenter@maine.gov

Skowhegan Career Center
98 North Ave
Skowhegan, ME 04976-1923
Toll Free Phone: 1-800-760-1572
Local Phone: (207) 474-4950
Fax No: (207) 474-4914
TTY Users Call Maine Relay 711
Email:skowhegan.careercenter@maine.gov

Springvale Career Center
9 Bodwell Court
Springvale, ME 04083
Toll Free: 1-800-343-0151
Local: (207) 324-5460
Fax: (207) 324-7069
TTY Users Call Maine Relay 711
Email:springvale.careercenter@maine.gov

Wilton Career Center
865 US Route 2E
Wilton, ME 04294-6649
Toll Free Phone: 1-800-982-4311
Fax No: (207) 645-2093
TTY Users Call Maine Relay 711
Email: wilton.careercenter@maine.gov

D. Prevention of Sexual Harassment 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.

SECTION 106 - QUALITY

Scope of Section This section contains general provisions related to the Quality of Work including roles, standards, Materials, Quality Control, Acceptance, Non-conforming Work, and warranties.

106.1 Roles Regarding Quality -

106.1.1 Cooperation - The Contractor and the Authority shall work cooperatively within their respective Quality Assurance (QA) responsibilities to produce and document a high quality project, meeting or exceeding the quality requirements of the contract.

106.1.2 Role of the Contractor - The Contractor is responsible for all aspects of the quality of construction, including labor, equipment, materials, incidentals, processes, construction methods, and QC. Unless required by Special Provision the Authority does not require a QCP. When required by the contract special provisions, the Contractor shall develop, submit for approval, implement, and adjust if necessary a QCP for the work specified.

106.1.3 Role of the Authority - The Authority will perform acceptance sampling, testing, and inspection for any element of the work to monitor compliance with the QCP, if required, and contract requirements. The Authority may also perform IA and Verification sampling and testing at any time.

106.2 Quality Standards -

106.2.1 Conformity with Contract - The Contractor shall comply with all contract requirements in performance of the work. Any required plans such as QCP, the TCP, and the SEWPCP, as approved by the Authority, are binding upon the Contractor as contract requirements.

106.2.2 Conformity with Other Standards - Unless otherwise provided in the contract, all work shall conform to the following standards, as applicable.

A. MaineDOT
B. AASHTO
C. ASTM
D. AREMA

E. Standard conditions and special conditions contained in any permit
F. Manual on Uniform Traffic Control Devices (MUTCD)
G. American with Disabilities Act (ADA)

106.2.3 Industry Standards - If there is no applicable standard set forth in this Contract for a particular item of work, then the Contractor shall perform that item of work in accordance with industry standards prevailing at the time of bid.

106.3 Material Quality -

106.3.1 General - Materials and manufactured products incorporated into the work shall be new unless otherwise specified, free from defect, and in conformity with the contract.

When material is fabricated or treated with another material or where any combination of materials is assembled to form a finished product, any or all of which are covered by specifications, the Authority may reject the finished product if any of the components do not comply with the specifications.

Title to all hot mix asphalt to be furnished by the Contractor shall pass to the Authority immediately before installation. The preceding sentence shall not in any way affect any right or remedy the Authority has relating to the quality of the material, installation, or workmanship.

106.3. 2 Quality Requirements - Materials shall meet the requirements of the contract at the time they are incorporated into the work. The Contractor shall test proposed sources of materials using accepted procedures and equipment no more than 60 days prior to use. Materials shall not be used in the work until passing results are obtained and provided to the Authority. The Contractor shall provide the Resident with a copy of the passing test results including the source of the material as identified in Section 105.8.6.

The Contractor shall perform QC inspection, sampling, testing, and documentation in accordance with the contract requirements. For work without specific QC requirements, the Contractor shall perform inspection, sampling, and testing, as the Contractor deems necessary to ensure adequate process control and end product quality.

The Contractor shall provide all facilities, testing equipment, and material samples as the Authority may require to collect and forward Acceptance and IA samples, and conduct related field tests.

The Contractor shall supply materials and perform work using methods and equipment in a manner, which will not degrade the quality of the materials. Materials with prior approval that become unfit for use or fall outside the specification limits will result in the affected product being declared non-conforming work. For a related provision, see Section 106.8 - Non-conforming Work.

The cost of the Contractor's QC activities and for furnishing facilities, testing equipment, and samples for the Department's Acceptance and IA activities is incidental to the related Pay Items.

106.3.3 Sources -

A. General: The Contractor shall furnish all materials and products required to complete the work, except as otherwise provided in the Contract. Unless otherwise specified in the Contract, the Contractor shall use only those products contained on the MaineDOT's Qualified Products List (available on the MaineDOT internet site) if a list is established for that type of product or material. For any material on the MaineDOT qualified products list that is being considered for incorporation into the Work, it shall be the Contractor's responsibility to verify that the material is appropriate for the use being considered.

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.

At least thirty (30) days prior to use the Contractor shall inform the Resident in writing of the sources from which Contractor proposes to obtain the materials required for the Project and statements of quality of these materials.

B. Authority Furnished Materials: The Contract may specify that the Authority will furnish certain materials. If the Contractor reasonably believes that the Authority furnished material is deficient in any way, the Contractor shall immediately notify the Authority before accepting delivery. After acceptance of delivery, the Contractor is responsible for all risk of loss or damage to Authority furnished material. The cost of inspecting, handling, and storing Authority furnished materials after delivery is incidental to the Contract. The Authority may deduct from amounts otherwise due the Contractor all costs necessary to make good any shortage, damage, or deficiencies discovered after the Contractor accepts delivery including any demurrage or car hire charges.

106.3.4 Storage - The Contractor shall store materials to preserve their quality and fitness for the work. If materials fail to meet the requirements of the Contract, the materials will be rejected. The Authority may inspect stored materials at any time. The Contractor shall locate stored materials to facilitate their prompt inspection. The Authority may approve portions of land within the Right-of-Way for storage purposes and for the placing of the Contractor's equipment, but the Contractor shall provide any additional land required without cost to the Authority. The Contractor shall not use private property for storage purposes without written permission of the owner, with copies of the written permission furnished to the Authority upon request. The Contractor shall restore all storage sites, whether within the Right-

of-Way or on private property, to original condition at the completion of the project, without cost to the Authority.

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.

106.3.5 Handling - The Contractor shall handle all materials in a manner that preserves their quality and fitness for the work. The Contractor shall transport aggregates in tight vehicles to avoid loss or segregation of materials after loading and measuring.

106.3. 6 Unacceptable Materials - The Authority may reject materials not conforming to the Specifications at any time, and the Contractor shall remove them immediately from the project site unless otherwise instructed by the Authority. The Contractor shall not store or use rejected materials on any Authority project.

106.3.7 Sampling and Testing - Qualified Authority personnel may take samples for Acceptance Testing. Work in which material is used without the approval will be at the Contractor's sole risk and the work will be considered non-conforming work. Unless otherwise designated, the Authority's testing costs will be at the expense of the Authority. Materials being used are subject to inspection, testing, or rejection at any time. The Authority will furnish copies of test reports to the Contractor upon request.

The Contractor is responsible for the quality of construction and materials incorporated into the work. The Contractor shall perform all necessary QC inspection, sampling, and testing in accordance with the approved QCP. If a QCP is not required, the Contractor is still responsible for all QC necessary for a high quality project. The Contractor shall not rely on the results of the Authority's Acceptance Testing being available for process QC.

The Contractor may observe the Authority's sampling and testing activities. If the Contractor observes a deviation from the specified sampling or testing procedures, then the Contractor shall describe the deviation to the Authority immediately and document the deviation in writing within 24 hours. Failure to properly describe and document the deviation will constitute a waiver by Contractor of any right to dispute the sampling or testing procedure concerned.

When directed by the Authority, the Contractor shall sample and test any material, which appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or corrected by the Contractor. All sampling shall be in accordance with Authority, AASHTO, or ASTM procedures as specified for the material being sampled.

106.4 Quality Control

106.4.1 General - When required by Special Provision, the Contractor shall develop, submit, and implement a Quality Control Plan (QCP), approved by the Authority, for those

items of work specified that will result in work that meets or exceeds the quality requirements of this Contract. Regardless of whether a QCP is required, Quality Control for all work is the Contractor's responsibility.

A.Submittal: Within 21 Days of Contract Execution or at least 30 days before any related work is to be performed, the Contractor shall submit three copies of its QCP to the Authority.

B. Approval: Within 14 Days of Receipt, the Authority will determine if the QCP is in accordance with the requirements of this Section 106.4 and (1) notify the Contractor that its QCP is approved or (2) return it for any needed revisions. If returned for revision, the Contractor shall resubmit three copies of its revised QCP as provided above within 7 days and the Authority will have 7 days from receipt of the revised plan to notify the Contractor whether its QCP is approved or again requires revision. Additional iterations will occur in a like manner until the Authority approves the Contractor's QCP. Failure to submit an approvable QCP shall not be cause for any adjustment to compensation or time.

C. Standard QC Plans: For items included in Section 400 - Pavements, the Contractor may choose to submit a standard QCP which includes any items common to all of their plants and paving operations. Standard plans shall be submitted to the Quality Assurance Engineer by March 1. The standard plan will apply to all projects constructed by the Contractor until a new standard plan is approved the following year. In addition to the standard plan, the Contractor must submit a supplemental QCP for each project which includes any required items and project specific details not covered by the standard plan. Approval of both standard and project specific QCPs shall be as outlined in paragraph B above, with the exception that the initial 14 day review period for standard plans will begin on March 1.

Upon final approval of the QCP, the Contractor shall provide 5 bound copies or an electronic version to the Authority. All Contractor QC personnel shall also be issued their own copy of the approved QCP. The Contractor shall communicate the applicable contents of the approved QCP to all Contractor and Subcontractor personnel involved in completing the work items covered by the QCP.

The Contractor's QCP shall consist of plans, procedures, responsibilities, authority, and an organizational structure that demonstrates that an effective level of QC will exist and that the end result products will comply with all Contract requirements. The Contractor shall provide all necessary QC inspection, sampling, and testing to implement the QCP. The QCP shall include an organizational structure and reporting requirements that demonstrate that QC personnel have sufficient independence to allow them to be primarily concerned with quality, as opposed to schedule and budget.

The individual administering the QCP shall be a full-time employee of or a consultant engaged by the Contractor. The individual shall have full authority to institute any and all

actions necessary for the successful implementation of the QCP.

The Authority will not sample or test for process control or assist in controlling the Contractor's production operations. The Contractor shall provide QC personnel and testing equipment capable of providing a quality product that meets or exceeds the Contract requirements. Continued production of non-conforming work for a reduced price as determined by the Authority, instead of making adjustments to bring work into conformance, is not allowed.

106.4.2 Quality Control Plan Requirements - The QCP shall include, at a minimum, the following:

Construction items covered by the QCP, as specified in the Contract
Sampling location and techniques
Tests and test methods
Testing frequencies
Inspection frequencies
Detailed description of production and placement equipment and methods
Documentation procedures, including:
- Acceptable Control Charts
- Inspection and test records
- Temperature measurements
- Accuracy, calibration, or recalibration checks performed on production or testing equipment

The QCP shall identify the Contractor's QC personnel, including the company official ultimately responsible for the quality of the work. The Authority's QCP approval process may include inspection of testing equipment and a sampling and testing demonstration by the Contractor's QC inspector(s) to assure an acceptable level of performance.

106.4.3 Testing - Qualified technicians in laboratories approved by the Authority shall perform all QC testing covered by the QCP. Technician qualifications shall be as described in the Contract for the corresponding item of work.

Laboratory facilities shall be clean and all equipment shall be maintained in proper working condition. The Authority shall be permitted unrestricted access to inspect the Contractor's laboratory facility. The Authority will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures. Deficiencies shall be grounds for the Authority to order an immediate stop to incorporating materials into the work until deficiencies are corrected. Work already in place affected by QC deficiencies is non-conforming work.

The Contractor shall maintain original documentation of all inspections, tests, (including all associated data such as measurements, weights, dial readings, etc. used in the completion of

the test), and calculations used to generate reports. The records shall indicate the nature, number, and type of deficiencies found, the quantities approved and rejected, and the nature of corrective actions taken. The Contractor shall maintain standard testing equipment and qualified personnel as required by the Contract.

The QCP shall include the testing and record keeping requirements for each item as contained in the Contract. The number preceding each item refers to the item and specification number in the Standard Specifications. When testing requirements are not specified, the Contractor shall perform all testing and record keeping as recommended by the manufacturer, vendor, or supplier.

If an item is required to be in the QCP but the Contract does not specify testing requirements, the Contractor shall propose testing requirements in the QCP.

The Contractor shall maintain Control Charts in a manner and location acceptable to the Authority. At a minimum, the Control Charts shall identify the project number, the Pay Item number, each test parameter, the upper and lower control limits applicable to each test parameter, and the running average of the last three Contractor test results. The Contractor shall use the Control Charts as part of a process control system for identifying production and equipment problems and for identifying potential quality reductions before they occur. Acceptable Control Charts are a required component of an acceptable QCP.

After final records review, the Contractor will certify in writing to the Authority that the project has been constructed and inspected, and all materials have been tested in accordance with the Contract. All Paving certs shall be submitted on the Paving Company's Letterhead.

106.4.4 QC Inspector Qualifications - When a QCP is required, the Contractor's QC Inspectors shall hold all certifications from MCTCB or NETTCP that apply to the items included in the QCP. The Authority may require the Contractor to remove Inspectors from the project that are not certified as required or that are otherwise unqualified or unable to fulfill their duties in a good and workmanlike manner.

106.4.5 Inspection Requirements - The QCP shall cover all construction operations on the site and at off-site production facilities, keyed to the proposed construction materials, sequence and schedule. The QCP shall also identify QC personnel (including qualifications), procedures, controls, tests, records, and forms to be used.

The Contractor shall provide a copy of each completed QC report to the Authority by 1:00 PM on the day following each construction activity, unless other arrangements are made with the Resident. Failure to provide this report will constitute non-compliance with the QCP and the Contract.

If an item is required to be in the QCP but QC Inspection requirements are not specified in the Contract, the Contractor shall propose inspection and record keeping requirements for such

items in the QCP.

106.4.6 QCP Non-Compliance - The Contractor shall comply with the approved QCP and shall take all other steps necessary to assure a high quality project.

Failure by the Contractor to comply with the approved Quality Control Plan will result in the following actions:

1st Incident: Written warning. If the Contractor does not take corrective action upon receipt of written warning, the Authority will escalate immediately to the 2nd Incident.

2nd Incident: Mandatory work suspension until compliance and loss of 1% of the Bid Price of all Pay Items covered by the QCP, as described in this Section.

3rd Incident: Mandatory work suspension until compliance and loss of an additional 2% of the Bid Price of all Pay Items covered by the QCP, as described in this Section.

4th and subsequent Incidents: Mandatory work suspension until compliance and loss of an additional 3% of the Bid Price (each occurrence) of all Contract Pay Items covered by the QCP, as described in this Section.

During all periods of the Contractor's failure to follow the approved QCP, no positive pay incentives will be calculated or paid if the Authority accepts the material.

Disincentives for failure to comply with the approved QCP are cumulative, and the Authority will deduct any disincentives due from amounts otherwise due the Contractor. These disincentives are intended to encourage the Contractor to comply with its approved QCP, and are not related to the quality of the material provided.

106.5 Quality Assurance - The Authority will conduct Quality Assurance by:

-Review of QC Reports provided by the Contractor.
-Monitoring Contractor compliance with the QCP.
-Random inspection of production, placement and workmanship
-Randomly accompanying the Contractor's inspector during QC Inspections/Testing.
-Acceptance a Verification and IA sampling and testing of materials or completed work.

The Authority's objective is a high quality project through a cooperative effort with the Contractor. Items, which are to be buried, covered, are of high cost, or affect the long-term durability of the work, will receive extra attention in the QA effort.

Unacceptable work found by the Authority's Inspector will be brought to the attention of the Resident, who will determine what corrective action the Contractor will take. The Contractor shall schedule the corrective work with the Resident, and both the QC and Authority's Inspectors will witness the corrective work. Failure of the Contractor to correct unacceptable work in a

timely manner, as determined by the Authority, may result in the withholding of progress payment(s), suspension of the work, or both. The Contractor will not be eligible for either additional monetary compensation or a time extension should this happen. If necessary for protection of the work or for public convenience, the Authority may accomplish corrective work by other means and deduct the cost from any monies due the Contractor.

The Authority may review and obtain copies of all QC test reports (including original test data), inspections reports, and control charts at all reasonable times without cost to the Department.

If the Authority decides to inspect the materials or operations at the plant, then the following conditions shall be met:

A. The Authority shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has arranged for materials.

B. The Authority shall have full access at all times to the parts of the plant that concern the manufacture and production of the materials being furnished.

C. If required, the Contractor shall arrange for an approved testing laboratory building for the sole use of the Authority. The building shall be located near the plant and conform to the requirements of Section 639 - Engineering Facilities.

D. The Contractor shall provide any needed equipment for safe access to plant stockpiles, equipment, and operations.

106.6 Acceptance - The Authority is responsible for determining the acceptability of the Work. Acceptance of the material is based on the visual inspection of the construction, monitoring of the Contractor's QCP, and Acceptance Test results. Acceptance sampling and testing is the responsibility of the Authority (unless alternate procedures are specified) except for furnishing facilities, testing equipment, transportation, and material samples as required.

106.7 VACANT -

106.8 Non-Conforming Work -

106.8.1 Substantially Conforming Work - If the Authority determines the work substantially conforms to the Contract, the Authority may accept the non-conforming work, and may require a credit to the Authority to be deducted from amounts otherwise due the Contractor. If the Authority and Contractor cannot agree to the amount of the credit, the work shall be unacceptable work.

106. 8.2 Unacceptable Work - The Contractor shall remove, replace, or otherwise correct all unacceptable work as directed by the Authority at the expense of the Contractor, without cost or

liability to the Authority.

106.8.3 Unauthorized Work - Prior to Final Acceptance and upon written order by the Department, the Contractor shall remove or uncover unauthorized work. After examination, the Contractor shall rebuild the uncovered work to a condition conforming to the Contract at the expense of the Contractor and without cost or liability to the Department. Any delay arising from unauthorized work shall be an inexcusable delay.

106.8.4 Uninspected Work - Prior to Final Acceptance and upon written order by the Authority, the Contractor shall uncover uninspected work. After examination, the Contractor shall rebuild the uncovered work to a condition conforming to the Contract. If the Authority determines that the uninspected work is acceptable, the uncovering, removing, and rebuilding will be paid as extra work, and any resulting delay shall be an excusable delay. If the Authority reasonably determines that the uninspected work is unacceptable, the uncovering, removing, and rebuilding shall be at the Contractor's expense and any resulting delay shall be an inexcusable delay.

106.8.5 Failure to Disapprove not Controlling - 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.

106.8.6 Corrective Steps - If the Contractor fails to promptly take any action required of it under this Section the Authority may take such action using its own or contracted forces, and deduct the costs incurred in doing so from amounts otherwise due to the Contractor.

106.9 Warranty Provisions -

106.9.1 Warranty by Contractor - The Contractor unconditionally warrants and guarantees that the Project will be free from warranty defects for one year from the date of Physical Work Complete. For a related provision, see Section 107.9.3.

If the Authority discovers any warranty defects during the warranty period, the Contractor agrees to promptly perform all remedial work at no additional cost or liability to the Authority.

For a related provision regarding obligations regarding plantings, see Section 621.0036 – Establishment Period

106.9.2 Warranty Definitions - Notwithstanding any other provision of the Contract, the following words or phrases have the following definitions for the purposes of the Contractor's warranty obligation under this Contract.

WarrantyDefects: Warranty Defects are conditions that result from material, manufacture, or workmanship and that are not in conformity with the Contract or with industry standards applicable to the work prevailing at the time of submission of the bid. Warranty defects do not include (A) normal wear and tear, (B) conditions caused by

occurrences clearly beyond the Contractor's control and not attributable to material, manufacture, or workmanship, and (C) Defects in landscape items that are the subject of Landscape Establishment Period Obligations.

Emergency: Emergency means necessary for public safety or convenience, as determined by the Authority.

Promptly: Unless an emergency, "Promptly" means in the first construction season after the Contractor has been notified of the defect(s), but always within one year of such notice. In case of emergency, Promptly means within 48 hours.

Remedial Work: "Remedial Work" means all work necessary to make the item in like new condition as reasonably determined by the Authority and performed in accordance with the Contract and in a good and skillful manner. Remedial Work includes all design, permitting, project management, supervision, materials, and labor, including erosion control and traffic control.

Remedial Work Procedure and Requirements: Within (30) Days of being notified of warranty defects, the Contractor shall submit to the Authority for approval a Remedial Work Plan including the scope of work, conceptual work methods, schedule, construction phasing, and other significant aspects of the work (the "Work Plan"). Unless otherwise provided by the Authority in writing, any work commenced prior to Authority's approval of the Work Plan will be at the Contractor's sole risk. Before starting any on-site work, the Contractor shall deliver to the Authority certificates of insurance complying with Section 110.3 - Insurance. If the estimated cost of remedial work exceeds $100,000, the Contractor shall provide performance and Payment Bonds complying with Section 110.2 - Performance and Payment Bonds.

If (A) the Contractor fails to submit a Remedial Work Plan, (B) the Contractor does not comply otherwise with written instructions from the Authority, or (C) a State of emergency exists in which delay would cause serious risk of loss or damage, then the Authority may perform or Contract for such remedial work and the Contractor will be responsible for all claims, costs, damages, losses, and expenses arising out of such work including fees and charges of engineers, consultants, attorneys, dispute resolution professionals, and court costs.

Upon a final inspection satisfactory to the Authority, the Authority will issue a written acceptance of the remedial work. The Contractor warrants and guarantees all remedial work to be free from warranty defects for one year after such acceptance.

106.9.4 Other Warranty Provisions - The Contractor hereby assigns to the Authority the right to enforce all manufacturer's warranties or guarantees on all materials, equipment or products purchased for the work that exceed the nature or duration of the warranty obligations assumed by the Contractor under this Contract.

The Performance Bond and/or Warranty Bond required by Section 110.2.1 - Bonds shall cover all warranty obligations of the Contractor provided by this Contract. Final Acceptance by the Authority does not relieve the Contractor of any warranty obligations provided by this Contract.

The Contractor agrees that the warranty obligations provided by this Contract shall be reported as an outstanding obligation in the event of bankruptcy, dissolution, or the sale, merger, or cessation of operations of the Contractor.

SECTION 107 - TIME

Scope of Section This Section contains general time-related provisions of the Contract including the Contract Time, allowable Work times, schedule requirements, Liquidated Damages, and Project Closeout.

107.1 Contract Time and Contract Completion Date - All Work must be Complete by the Contract Completion Date and within the Contract Time. Unless expressly provided otherwise by the Authority in writing, the Contract Time shall be all time between the Contract Execution and the Completion Date specified in the Contract, and any authorized extensions.

107.2 Commencement of Contract Time and Work - Unless provided elsewhere in this Contract or in writing from the Authority, the Contract Time will commence on the date of Contract Execution. For related provisions, see Sections 101.2 - Definitions of Contract Execution and 103.8 - Execution of Contract by the Authority.

Unless specified otherwise (see Section 104.4.2), Work may commence upon Contract Execution, unless the Contractor has not secured and provided the Performance and Payment Bonds and Insurance Certificates required by Sections 103.5 - Award Conditions, 110.2 - Bonding, and 110.3 - Insurance. Any Work performed before the requirements of these sections are met is Unauthorized Work and is at the sole risk of the Contractor. Pursuant to Section 110.1 - Indemnification, the Contractor and Surety shall indemnify and hold harmless the Authority from any claims arising from Work.

107.3 Allowable Work Times

107.3.1 General - Work can be performed at any time except Sundays and Holidays, unless expressly specified otherwise in this Contract, including any applicable Permit conditions. If a Holiday occurs on a Sunday, the following Monday shall be considered a Holiday. Sunday or Holiday work must be approved by the Authority, except that the Contractor may work on Martin Luther King Day, President's Day, Patriot's Day, the Friday after Thanksgiving, and Columbus Day without the Authority's approval.

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

107.3.2 Night Work - If the Contractor performs Work during periods of darkness, the Contractor shall comply with Contract requirements governing night Work. If the Contractor elects to perform Work during periods of darkness on its own initiative and without direction from the Authority, then the Contractor shall also comply with all municipal ordinances affecting such Work including noise ordinances. When pricing and scheduling the Work, the Contractor shall not assume that such non-directed night Work will be allowed. Accordingly, the Contractor shall not be entitled to any adjustment to either compensation or time due to its inability to secure any required municipal approvals.

107.3.3 Sundays and Holidays - The Contractor shall not carry on construction operations on Sundays or Holidays unless: (A) expressly specified otherwise in this Contract, (B) authorized by the Authority, or (C) necessary to avoid or eliminate a clear and immediate risk of significant bodily injury to any person.

107.3.4 Seasonal Work Restrictions - The Contractor shall meet all seasonal restrictions on time of Work contained in the Contract including all Permits.

107.4 Scheduling of Work -

107.4.1 General Duty of Contractor - The Contractor is solely responsible for the planning and execution of Work in order to complete the Work within the Contract Time.

107.4.2 Schedule of Work Required - At least 3 days before the pre-construction meeting and before beginning any on-site activities, the Contractor shall provide the Authority with its Schedule of Work in a Critical Path Method (CPM) in the form of an activity on node (AON) diagram. This CPM schedule will become the basis for claims involving delay. The Authority will waive this CPM requirement for appropriate contracts through a special provision. The Contractor shall plan the Work, including the activity of Subcontractors, vendors, and suppliers, such that all Work will be performed in Substantial Conformity with its Schedule of Work. The Schedule must include sufficient time for the Authority to perform its functions as indicated in this Contract, including QA inspection and testing, approval of the Contractor's TCP, SEWPCP and QCP, and review of Working Drawings.

At a minimum, the Schedule of Work shall show the major Work activities, milestones, durations, submittals and approvals, and a timeline. Milestones to be included in the schedule include: (A) start of Work, (B) beginning and ending of planned Work suspensions, (C) Completion of Physical Work, and (D) Substantial Completion. If the Contractor Plans to Complete the Work before the specified Completion date, the Schedule shall so indicate.

Any restrictions that affect the Schedule of Work such as paving restrictions or In-Stream Work windows must be charted with the related activities to demonstrate that the Schedule of Work complies with the Contract.

The Authority will review the Schedule of Work and provide comments to the

Contractor within 20 days of receipt of the schedule. The Contractor will make the requested changes to the schedule and issue the finalized version to the Authority.

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

In addition to the Schedule required the Contractor shall submit, no later than 12:00-noon every Thursday, a schedule of his operations for the following two weeks, including a detailed plan of the first week's activities. This plan shall show the type of Work to be done and the traffic lanes that are to be impacted, including all lane closures that are anticipated for the week. This updated plan will be used by the Resident to schedule the appropriate resources and inform other interested parties of the proposed Work. Lane closures that are not shown on this plan will only be allowed if they are deemed emergency lane closures by the Resident.

107.4.3 Projected Payment Schedule V A C A N T

107.4.4 Schedule Revisions - The progress of the Work shall be compared against the Schedule of Work at each Progress Meeting. If the Authority determines that the Contractor's actual progress is not in Substantial Conformity with the Schedule of Work, then the Contractor shall either increase Project resources to get back on schedule or submit a revised Schedule of Work to the Authority.
No Pay Requisition will be approved for payment until the revised schedule is accepted by the Authority.

107.4.5 No Separate Payment - Unless expressly provided otherwise, the cost for providing a Schedule of Work, a Projected Payment Schedule, and all revisions and updates is Incidental to the Contract.

107.5 Suspension of Work

107.5.1 Winter Suspensions -

A. Start of Winter Suspension: The Contractor may request in writing that the Authority approve a Winter Suspension. If the Authority determines that winter weather conditions make it impossible to perform all or specified portions of the Work, the Authority will approve the Contractor's request with respect to such portions and set the start date of the Winter Suspension.

B. Monitoring and Communications: During the Winter Suspension, the Contractor is responsible for monitoring weather conditions and requesting approval from the Authority to resume Work as soon as possible. In any case, the Contractor shall notify the Project Manager or Resident 14 Days before the end date of the Winter Suspension specified in Section 107.5.1(C).

C. End of Winter Suspension: Upon request by the Contractor or upon its own initiative, the Authority may determine the end date of the Winter Suspension and the Contractor is responsible for resuming Work immediately after said end date. If the end date is not otherwise determined by the Authority in writing, Winter Suspensions shall end on April 15th.

D. Impact on Liquidated Damages: Liquidated Damages will not be assessed for any portion of a Winter Suspension that occurs after expiration of the Contract Time. Winter Suspensions will not otherwise affect the assessment of Liquidated Damages. For a related provision, see Section 107.7 - Liquidated Damages.

107.5.2 Suspensions Due To Uncontrollable Events - Upon request of the Contractor or upon its own initiative, the Authority may suspend the Work due to Uncontrollable Events. Any Delay related to such a suspension will be analyzed in accordance with Section 109.5 - Adjustments for Delay. For a related provision, see Section 101.2 - Definition of Uncontrollable Event.

107.5.3 Suspensions for Cause - The Authority may suspend the Work if the Contractor violates any provision of the Contract that may affect the quality, cost, public safety, timeliness or Conformity of the Work. Any Delay related to such a suspension will be an Inexcusable Delay. For a related provision, see Section 109.5 - Adjustments for Delay.

107.5.4 Suspensions for Convenience - The Authority may suspend the Work for any other reason it determines is in the best interest of the Authority. Any Delay related to such a suspension will be analyzed in accordance with Section 109.5 - Adjustments for Delay.

107.5.5 Pre-Suspension Work - If Work is to be suspended for an extended period of time, the Contractor shall store all Materials in a manner that does not obstruct the free and safe flow of vehicular, pedestrian, railroad, or marine traffic and that protects the Materials from damage. The Authority may direct the Contractor to install guardrail or other traffic control devices necessary to protect the traveling public. The Contractor shall take all precautions to prevent damage or deterioration of the Work already performed, provide suitable Drainage of the Roadway by opening ditches and Shoulder drains, erecting temporary Structures, and providing temporary erosion control where necessary. The cost of such pre-suspension Work will be analyzed in accordance with Section 109.5 - Adjustments for Delay.

For related provisions, see Sections 104.2.6 - Right to Suspend Work, 105.4.4 – Maintenance During Suspension of Work, 107.7 - Liquidated Damages, and 109.5 - Adjustments for Delay.

107.6 Completion Incentives and Disincentives - When provided in the Contract, financial incentives for early Completion and disincentives for late Completion will be added to or deducted from amounts otherwise due the Contractor. Incentives/Disincentives are separate and distinct from Liquidated Damages and Supplemental Liquidated Damages.

107.7 Liquidated Damages -

107.7.1 General - The Authority and the Contractor acknowledge that time is an essential element of the contract, and that delay in completing the work beyond the designated completion date will result in damages including but not limited to, damages to the State of Maine due to public inconvenience, obstruction to traffic, interference with business, as well as increased engineering, inspection, and administrative costs to the Authority. The Authority and the Contractor acknowledge the difficulty of making a precise determination of such damages and, as a result, they have agreed to a sum of money in the amount stipulated in the contract that will be charged against the Contractor for each calendar day that the work remains uncompleted after the expiration of the designated completion date, not as a penalty but as Liquidated and Supplemental Liquidated Damages.

Except as expressly provided otherwise in this Contract, the Contractor or, in case of default, its Surety, shall owe the Department the per diem amount specified in Section 107.7.2 - Schedule of Liquidated Damages, as well as any per diem amount of Supplemental Liquidated Damages as specified in the Special Provisions, for each Calendar Day that any portion of the Work remains incomplete after the Contract Time has expired. Should the Contractor or its Surety, fail to complete the work by the Completion date, a deduction of the amount stipulated in the Contract as Liquidated and Supplemental Liquidated Damages will be made for each and every calendar day that such contract remains uncompleted. This amount will be deducted from any money otherwise due the Contractor or its Surety under the Contract or other contracts with the Authority, and the Contractor and its Surety will be liable for any Liquidated and Supplemental Liquidated Damages in excess of the amount due.

The Contractor acknowledges that the specified amounts per diem of Liquidated and Supplemental Liquidated Damages in the Supplemental Specifications and Special Provisions, respectively (if applicable) are reasonable, and agrees to stipulate to their reasonableness in any suit for the collection of or involving the assessment of said damages. The damages referred to herein are intended to be and are cumulative, and will be in addition to every other remedy now or hereafter enforceable at law, in equity, by statute, or under the contract.

Permitting the Contractor to continue and finish the work or any part thereof after the expiration of the completion date shall in no way operate as a waiver on the part of the Authority of its rights to assess and recover Liquidated and Supplemental Liquidated Damages, or any other rights, under the Contract.

For related provisions, see Sections 107.1 - Contract Time, 107.5.1(D) - Winter Suspensions - Impact on Liquidated Damages, and 109.5 - Adjustments for Delay.

107.7.2 Schedule of Liquidated Damages - The specific per diem rates for Liquidated Damages are set forth below. By executing the Contract, the Contractor acknowledges that such an amount is not a penalty and that the daily amount set forth in the Contract is a reasonable per diem forecast of damages incurred by the Authority due to the Contractor's failure to

Complete the Work within the Contract Time. Liquidated Damages will cease upon the acceptable physical completion of the Work, evidenced by the Authority's written acceptance of the same under Subsection 107.9.3.

Original Contract Amount		Per Diem Amount of Liquidated Damages
From More Than	To and Including	Calendar Day
0	$100,000	$225
$100,000	$250,000	$350
$250,000	$500,000	$475
$500,000	$1,000,000	$675
$1,000,000	$2,000,000	$900
$2,000,000	$4,000,000	$1000
$4,000,000	and more	$2,100

107.8 Supplemental Liquidated Damages - Supplemental Liquidated damages on a calendar day basis in accordance with Subsection 107.7.2 or as modified by the Special Provisions, 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

Supplemental Liquidated Damages will be deducted from amounts otherwise due the Contractor.

107.8.1 Fabrication Time - The Authority may have budgeted specific amounts of continuous full time fabrication/shop inspection for certain Work components, which will be specified by Special Provision.

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

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

Inspection is required for the following activities:

For metal fabrication work – welding, including tack welding, heat correcting, nondestructive examination, assembly verification.

For precast prestressed concrete fabrication work – tensioning of strands, batching and casting of concrete, breaking of test cylinders, de-tensioning.

107.9 Project Closeout

107.9.1 Final Cleanup and Finishing - To prepare for final inspection the Contractor shall clean the Project and all ground, lawns, streams, Structures, and other areas adjacent to the Project of all rubbish, excess Material, temporary Structures, and Equipment. The ground shall be backfilled with Material that is generally the same as the surrounding Material, graded to drain properly, and finished such that the surface matches the surrounding surface (examples - loam and seed, compacted gravel, pavement). The Contractor must leave all areas impacted by the Work in a condition that is acceptable to the Authority. 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.

107.9.2 Notice/Inspection/Punch List - The Contractor will notify the Authority in writing that it considers the Project complete. As soon as practicable thereafter, the Authority will inspect the Work. If incomplete or unsatisfactory Work is noted, the Authority will prepare a written list of all items that must be completed or corrected before the Physical Work is Complete ("Punch List"). The Contractor shall immediately take such measures as are necessary to complete all Punch List items.

107.9.3 Notices / Final Inspections / Physical Work Completion - The Contractor shall notify the Authority in writing when all Punch List items have been completed and/or corrected and that the Contractor considers the Project Complete. As soon as practicable thereafter, the Authority will make another inspection of the Work. The Authority and the Contractor will attend this inspection jointly. If incomplete or unsatisfactory Work is noted, the Authority will prepare a revised Punch List [which may include items not on previous Punch List(s)] and the Contractor shall immediately take such measures as are necessary to complete the revised Punch List items. Additional iterations will occur in a like manner until the Authority finds that the Physical Work is Complete and in Conformity with the Contract, at which point the Authority will provide the Contractor with written notification that the Physical Work is complete and the Authority has conditionally accepted the Project, If the Contractor has not already done so, the Contractor will Promptly remove all temporary traffic control devices upon receipt of said written notification.

107.9.4 Closeout Documentation - Within 75 Days of conditional acceptance by the Authority under subsection 107.9.3, the Authority will advise the Contractor in writing of the Final Quantities and any damages to be assessed for the Project. The Contractor shall resolve any Project issues that remain and provide all Closeout Documentation to the Authority within 30 Days thereafter.

107.9.5 Final Acceptance - The Authority will present a project for Final Acceptance to the Authority's governing board at the board's next regularly scheduled meeting which is scheduled 14 Days or more after the Authority's receipt of acceptable Closeout Documentation. The Authority will make Final Payment, including the release of all remaining retainage, and release any escrowed bid documents, within 30 days of Final Acceptance.

If the Contractor fails to resolve issues and deliver Closeout Documentation within the 30 Days provided in Section 107.9.4, the Authority may provide a final notice informing the Contractor in writing that unless the Contractor Delivers all Closeout Documentation within 30 Days of the date of Receipt of final notice, the Contractor shall be in Default under the Contract. The Contractor shall become ineligible to Bid on any Authority Contracts. The Authority may then pursue all remedies provided by the Contract or by law, including withholding Final Payment. For a related provision, see Section 102.1.1 - Eligibility to Bid - Basic Requirements.

107.9.6 No Waiver of Legal Rights - Final Acceptance does not preclude the Authority from correcting any measure, estimate, or certificate made. The Authority may recover from the Contractor or its Surety, or both, overpayments made due to failure to fulfill Contract obligations.

A waiver on the part of the Authority of any breach of any part of the Contract is not a waiver of any other or subsequent breach.

The Contractor retains liability following Final Acceptance for latent Defects, fraud (or such gross mistakes as may amount to fraud), and warranty obligations.

SECTION 108 - PAYMENT

Scope of Section This Section contains general provisions related to payment including measurement of quantities, progress payment, retainage, the right to withhold payment, and other payment-related terms.

108.1 Measurement of Quantities for Payment - 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.

108.1.1 Use of Plan Quantities - Payment for all items labeled in the Bid Documents as "Plan Quantity" will be based upon the estimated quantity for the work described in the Bid Documents. The Contractor shall accept such payment as full and complete compensation for

that item without physical measurement. Quantities included in the plan quantity amount but not accomplished will be calculated by the Authority using standard estimating procedures and deducted from the plan quantity. Areas not included in the plan quantity amount but completed will be measured and added to the plan quantity. Upon mutual written Agreement by the Authority and the Contractor through a Contract Modification, the estimated quantity of any item of Work may be used as the final quantity for that item without physical measurement.

108.1.2 General Measurement Provisions - The Authority will use the U.S. Customary system for all measurements unless the Contract utilizes the International System of Units (SI). Measurement of Bid Items shall include all resources necessary to complete the Pay Item of Work under the Contract. The Authority will measure items for payment in accordance with the "Method of Measurement" provisions of the applicable Specification. For all items of Work, other than those paid for by lump sum, the Authority shall determine the quantities accepted as the basis for Final Payment after the Physical Work is Completed.

108.1.3 Provisions Relating to Certain Measurements - Unless expressly provided otherwise, the Authority and the Contractor shall use the following general measurement provisions.

Lump Sum or Each Lump Sum payment is total reimbursement for all resources necessary to complete the item of Work. Quantities provided for items measured and paid by Lump Sum are estimated quantities and are provided for informational purposes, only. There will be no additional payment made by the Authority or reduction in payment to the Contractor if the actual, final, quantities for items measured and paid by Lump Sum are different than the quantities estimated by the Authority. The only exception to this is when an item is eliminated, in which case Standard Specification Section 109.2, Elimination of Items, would take precedence.

Each is payment per complete unit.

Length: Length is defined as linear measurement parallel to the item base or foundation. A station is 100 feet.

Area: Area refers to the length, as defined above, multiplied by the width, which is defined as the linear measurement perpendicular to the item base or foundation. When calculating area for payment, use horizontal, longitudinal, and plan (neat) transverse measurements for surface area computations. Make no deductions for individual fixtures having an area of 1 square yard or less. For purposes of the preceding sentence, "fixtures" means small subareas that do not receive material(s) or on which no Work is performed.

Volume: Measure Structures using plan (neat) or approved Contract Modification dimensions. Use the average end area method to compute excavation volumes. Use hauling vehicles approved by the Authority when transporting Materials measured by volume.

Measure materials at the point of delivery. Ensure the body shape allows contents to be accurately measured. Load and level vehicles to the lesser of their water level or legal capacity. Obtain the Authority's approval to convert Materials specified for measure by mass to volume. Use specified conversion factors.

Measure water to the nearest gallon with calibrated tanks, distributors, certified scale weights or water meters.

Measure bituminous materials by the gallon or ton.

Use net certified scale weights or certified rail car volumes. Correct for bituminous Material lost, wasted, or otherwise not incorporated in the Work. Correct net certified Bituminous Material weights or volumes for loss or foaming when shipped by truck or transport.

Measure timber by the board foot. Base measurement on nominal widths and thicknesses and individual maximum lengths.

Mass: One ton is 2,000 pounds. Use certified scales to determine mass (weight). Accept certified "car weights" for Material shipped by rail, except for Material to be subsequently processed in mixing plants. Obtain certified haul truck tares as specified. Each Haul Truck shall display a legible identification mark.

Measure cement by the pound or ton.

Accept nominal mass or dimensions for standard manufactured items unless otherwise specified.

Accept industry-established manufacturing tolerances, unless otherwise specified.

Measure Aggregate mass in the saturated surface dry condition.

The Contractor shall furnish and maintain weigh systems tested and certified by the State or use certified permanently installed commercial scales. The Contractor shall provide certifications after each set-up and before use or as requested by the Department. The weigh system shall be scaled after certification and display a certification stamp. Only mechanical or electronic scales shall be used.

The beams, dials, platforms, and other scale Equipment shall be arranged for safe and convenient viewing by the operator and inspector. Scales shall be tested for accuracy before use at a new site. Platform scales shall be level and with rigid bulkheads at each end. The Authority will adjust quantities of Materials received on scales found to be outside of specified tolerances, using a correction based on the last documented test within specified tolerances.

All materials which are measured or proportioned by weight shall be weighed on approved weighing systems. When a delivery slip is required for payment of Materials measured by weight, weighing, except for automatic ticket printer systems, shall be performed on approved platform truck scales by a Licensed Public Weighmaster furnished by the Contractor, in accordance with the following requirements.

(A) Licensed Public Weighmaster: A Licensed Public Weighmaster shall be any person satisfying the requirements of the State Sealer of Weights and Measures and granted a license as a Public Weighmaster. Each Licensed Public Weighmaster shall provide him/herself with an impression seal as required by the State Sealer and shall impress this seal upon delivery slips issued by him/her. When completed by a Licensed Public Weighmaster, delivery slips shall be considered as the Weight Certificates required by the Maine Weights and Measures Law, MRSA Title 10. The Weighmaster shall perform all duties required of him/her by law and the specifications.

(B) Weighing Trucks: Tare weights of trucks hauling stone, bituminous mixes and similar items shall be determined twice daily, once during the forenoon and once during the afternoon. The tare weight thus found shall be used to determine the net load until the next tare weighing of the empty truck. Tare weights of trucks hauling liquid and bituminous cement materials or other items not generally on a repeat basis shall be determined immediately before being loaded and the weight thus found shall be used for that load only. The tare weight of a truck shall be defined as the weight of the empty vehicle including the driver, but with no passengers.

(C) Platform Truck Weighing Systems: An approved platform truck scale meeting the following requirements shall be provided, installed and maintained, when required, by the Contractor or be available to him/her at an approved nearby location:

1) The weighing system shall conform to the specifications, tolerances and regulations for commercial weighing devices of the National Institute of Standards and Technology and shall be accurate within maximum tolerances of plus or minus 2 pounds for every 1000 pounds of load.

2) No auxiliary indicators, in combination with the beams or dial of the weighing system shall be used to increase the maximum allowable load above 105 percent of the manufacturer's rated capacity, as stated in the National Institute of Standards and Technology Handbook 44 S.1.7.

3) The platform of the weighing system shall be sufficient size to accommodate the entire vehicle or combination of vehicles. If a combination of vehicles must be divided into separate units in order to be weighed, each unit shall be entirely disconnected before weighing and a separate weight certificate, delivery slip, or

ticket shall be issued for each separate unit.

4) The value of the minimum graduation on the indicator of the scale shall not be greater than 20 pounds. All weighing shall be read and recorded to the nearest 20 pounds or one-hundredth ton.

5) The weighing system shall be set on concrete or other approved foundation. The recording mechanism of the scale shall be suitably housed or protected from weather.

6) The Contractor shall have the weighing system inspected and approved by the State Sealer of Weights and Measures or by a Repairman registered and approved by the State Sealer within a period of 12 months preceding the date of any weighing and again after each change of location.

(D) Check Weighing for Platform Truck Weighing System: Check weighing shall be made on the weights and on the weighing in scales during production in the following manner:

1) At least twice during 5 days of production, in the presence of a State Inspector, a loaded truck which has been weighed and issued a weigh slip shall be turned and a new weighing made of the truck and load with the truck heading in reverse direction and at the opposite end of the weighing system platform from the first weighing. The new weight will be recorded. If the variation from the first weight is 0.2 percent or less, the fact will be so noted in the project records. However, if the variation exceeds 0.2 percent, the scales may not be used until rechecked and resealed by the State Sealer of Weights and Measures.

2) At least twice during 5 days of production, a loaded truck which has moved off the weighing system will be intercepted, directed back to the scales, and reweighed under supervision of a State Inspector.

3) At least twice during 5 days of production, in the presence of a State Inspector, a truck which has been emptied will be directed to the weighing system before being loaded at a time other than the normal tare weighing and weighed again for a check on the tare weight.

4) Check weighing will be on a plant basis and, although a plant may produce material for more than one project or Contract, check weighing will not be required for each project or Contract.

5) Additional checks will be made occasionally at the discretion of the Resident, which additional checks shall be made at least twice during every 5 days of production. Claims by the Contractor for delays or inconvenience due to check

weighing will not be considered.

(E) Reciprocal Agreements: Weighing of materials on weighing systems located outside the State of Maine will be permitted for materials produced or stored outside the State, when requested by the Contractor and approved. Out-of-state weighing, in order to be approved, must be performed by a Licensed Public Weighmaster or a person of equal authority in the State concerned, on scales accepted in the State concerned and meeting the requirements of this Section.

(F) Delivery Slips: Serially pre-numbered delivery slips of acceptable size and format for stating the following minimum information shall be furnished by the Contractor, in as many copies as may be necessary. One copy shall be retained by the Resident or Inspector upon accepting delivery of the material.

1) Vehicle identification

2) Date loaded

3) Work identification number & location

4) Identification of material:
   a) Item number
   b) Source location of supplier
   c) Type and grade
   d) Tank number from which loaded, if liquid

5) Quality information as necessary for bituminous liquids
   a) Specific gravity at 60°F
   b) Serial number of the Certificate of Analysis as furnished according to Division 700, General Statement
   c) The Certificate Statement as required in Division 700, General Statement
   d) The Viscosity of the material: if asphalt cement, in poises at 140°F and in centistokes at 275°F; if other bituminous liquid, the specified viscosity according to the type and grade shown in Section 702

6) Quantity information as necessary: gross, tare and net weights, volume of load if not material requiring weighing, net gallons at 60°F if bituminous liquids

7) Signatures (legible initials acceptable) of: Weighmaster (if weight measured material), Contractor's representative (if volume measured material), and Resident (Cover Slips).

If materials are shipped by rail the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be

acceptable for materials to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily, at such times as directed. Each truck shall bear a legible identification mark.

Rail shipments of bituminous liquid shall be measured directly by volume. Correction shall be made when liquid bituminous material has been lost from the car, wasted, or otherwise not incorporated in the work. Other shipments of bituminous liquids will be measured by the gallon or ton. Volumes will be measured at 60°F or will be corrected to the volume at 60°F using the tables in ASTM D1250.

When bituminous liquids are shipped by truck or transport, net certified weights or volume subject to correction for loss or foaming may be used for computing quantities. Net certified weight shall be determined upon loading for all bituminous liquids when shipped by truck or transport. The net weight of each load shall be converted to net gallons at 60°F by a conversion factor expressed in pounds per gallon.

(G) Time Measure Equipment by hours in accordance with Section 631 - Equipment Rental.

(H) Quantities Greater than Shown on Plan No allowance will be made for work over a greater limit than indicated on the Plans or otherwise authorized, not limited to excavation removed or embankment placed beyond the slope lines shown on the cross-sections.

108.2 Progress Payments

108.2.1 Generation of Progress Payment Estimates - The Resident will make current estimates in writing from time to time as the Work progress warrants, normally no more frequently than once each month, on or before the date set by the Resident. Estimates 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.

If the Contract requires, the Contractor will submit an application for progress payment with a detailed written explanation of the payments requested, on forms and media approved by the Authority, to the Resident for approval. The Resident may request that the Contractor submit backup documentation including copies of receipts, invoices, and itemized payments to Subcontractors.

108.2.2 Payment - The Authority will make payment within 30 days of Contractor and

Resident concurrence on the amount of a progress payment. These payment obligations shall not apply in the event of unforeseeable circumstances such as insufficient legislative appropriations, information systems failure, and other Uncontrollable Events. All payments made are subject to correction in subsequent Progress Payments and the Final Payment. For related provisions, see Sections 108.8 - Final Payment, and 108.9.2 - No Inflation Adjustments/ Interest.

108.2.3 Mobilization Payments - Mobilization includes the mobilization and demobilization of all resources as many times as necessary during the Work.

Upon approval of all pre-construction submittals required for approval by this Contract including those listed in Section 104.4.2 - Preconstruction Conference, the Contractor will receive payment of 50% of the Lump Sum price for Mobilization, not to exceed 5% of the Bid less the amount bid for Mobilization. After the Authority determines that the Work is 50% complete, the Contractor will receive the other 50% of the Lump Sum price for Mobilization, not to exceed 5% of the Bid less the amount bid for Mobilization. Any remaining Mobilization will be paid upon Final Acceptance.

108.3 Retainage - The Authority shall deduct 7.5% of each Progress Payment, to be retained by the Authority until after the completion of the entire Contract in an acceptable manner.

If, in the judgment of the Authority, based upon 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 liquidated damages which are likely to accumulate, as well as any actual damages that the Authority has documented, 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 which is chargeable to the Contractor, from a Subcontractor or other third party, 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 from a company acceptable to the Authority and in a form acceptable to the Authority 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.

When requested by the contractor an 80 percent reduction of retainage will be considered by the Authority when the Project is substantially complete. When requesting a reduction, 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.

108.4 Payment for Materials Obtained and Stored - 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 - For all contracts with hot mix asphalt in excess of 500 tons total, a price adjustment for performance graded binder will be made for the following pay items:

Item 403.102	Mot Mix Asphalt - Special Areas
Item 403.206	Hot Mix Asphalt - 25 mm
Item 403.207	Hot Mix Asphalt - 19 mm
Item 403.2071	Hot Mix Asphalt - 19 mm (Polymer Modified)
Item 403.2072	Hot Mix Asphalt - 19 mm (Asphalt Rich Base)
Item 403.2073	Warm Mix Asphalt - 19 mm
Item 403.208	Hot Mix Asphalt - 12.5 mm
Item 403.2081	Hot Mix Asphalt - 12.5 mm (Polymer Modified)
Item 403.20813	Warm Mix Asphalt - 12.5 mm (Polymer Modified)
Item 403.2083	Warm Mix Asphalt - 12.5 mm
Item 403.209	Hot Mix Asphalt - 9.5 mm (sidewalks, drives, & incidentals)
Item 403.210	Hot Mix Asphalt - 9.5 mm
Item 403.2101	Hot Mix Asphalt - 9.5 mm (Polymer Modified)
Item 403.2102	Hot Mix Asphalt - 9.5 mm (Asphalt Rich Base)
Item 403.2103	Warm Mix Asphalt - 9.5 mm
Item 403.2104	Hot Mix Asphalt - 9.5 mm (3/4" Surface)
Item 403.211	Hot Mix Asphalt - Shim
Item 403.2111	Hot Mix Asphalt - Shim (Polymer Modified)
Item 403.2113	Warm Mix Asphalt - Shim
Item 403.212	Hot Mix Asphalt - 4.75 mm (Shim)
Item 403.2123	Warm Mix Asphalt - 4.75 mm (Shim)
Item 403.213	Hot Mix Asphalt - 12.5 mm (base and intermediate course)
Item 403.2131	Hot Mix Asphalt - 12.5 mm (base and intermediate course Polymer Modified)
Item 403.2132	Hot Mix Asphalt - 12.5 mm (Asphalt Rich Base and intermediate course)
Item 403.2133	Warm Mix Asphalt - 12.5 mm (base and intermediate course)
Item 403.214	Hot Mix Asphalt - 4.75 mm (Surface)
Item 403.2143	Warm Mix Asphalt - 4.75 mm (Surface)
Item 403.301	Hot Mix Asphalt (Asphalt Rubber Gap-Graded)
Item 404.70	Colored Hot Mix Asphalt - 9.5mm (Surface)
Item 404.72	Colored Hot Mix Asphalt - 9.5mm (Islands, sidewalks, & incidentals)
Item 461.13	Maintenance Surface Treatment

Price adjustments will be based on the variance in costs for the performance graded binder component of hot mix asphalt. They will be determined as follows:

The quantity of hot mix asphalt for each pay item will be multiplied by the performance graded binder percentages 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.

Item 403.102-6.2%
Item 403.206-4.8%
Item 403.207-5.2%
Item 403.2071-5.2%
Item 403.2072-5.8%
Item 403.2073-5.2%
Item 403.208-5.6%
Item 403.2081-5.6%
Item 403.20813-5.6%
Item 403.2083-5.6%
Item 403.209-6.2%
Item 403.210-6.2%
Item 403.2101-6.2%
Item 403.2102-6.8%
Item 403.2103-6.2%
Item 403.2104-6.2%
Item 403.211-6.2%
Item 403.2111-6.2%
Item 403.2113-6.2%
Item 403.212-6.8%
Item 403.2123-6.8%
Item 403.213-5.6%
Item 403.2131-5.6%
Item 403.2132-6.2%
Item 403.2133-5.6%
Item 403.214-6.8%
Item 403.2143-6.8%
Item 403.301-6.2%
Item 404.70-6.2%
Item 404.72-6.2%
Item 461.13-6.4%

Hot Mix Asphalt**:** The quantity of hot mix asphalt will be determined from the quantity shown on the progress estimate for each pay period.

Base Price: The base price of performance graded binder to be used is the price per standard

ton current with the bid opening date. This price is determined by using the average New England Selling Price (Excluding the Connecticut market area), as listed in the Asphalt Weekly Monitor.

Period Price: The period price of performance graded binder will be determined by the Department by using the average New England Selling Price (Excluding the Connecticut market area), listed in the Asphalt Weekly Monitor current with the paving date. The maximum Period Price for paving after the adjusted Contract Completion Date will be the Period Price on the adjusted Contract Completion Date.

108.5 Right to Withhold Payments - The Authority may withhold payments claimed by the Contractor on account of:

A. Defective Work,
B. Damages for Non-conforming Work,
C. Failure to provide the Authority the opportunity to inspect the Work,
D. Damage to a third party,
E. Claims filed or reasonable evidence indicating probable filing of claims,
F. Failure of the Contractor to make payments to Subcontractors or for Materials or labor, or failure of Subcontractors to make payments to ~~Sub-~~Subcontractors or for Materials or labor,
G. Evidence that the Project cannot be completed for the unpaid balance,
H. Evidence that the amount due the Authority will exceed the unpaid balance,
I. Regulatory non-compliance or enforcement,
J. Failure to submit Closeout Documentation,
K. 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.
L. Contractor's failure to submit required schedule or schedule updates
M. All other causes specifically authorized by the Contract Documents.
N. All other causes that the Authority determines negatively affect the Authority's interests.

108.6 Taxes, Fees, Allowances, and Notices - The Contractor shall pay all taxes, charges, fees, and allowances and give all notices necessary and incidental to the due and lawful prosecution of the Work. Except as expressly provided otherwise in this Contract, all such taxes, charges, fees, and allowances are Incidental to the Contract.

Most items are exempt from Maine sales tax. The Contractor shall Bid in accordance with the Maine statutory exemption from sales tax located at 36 MRSA §1760, subsections (2) and (61).

108.7 Damages for Non-Conforming Work - If the Contractor performs Non-conforming Work that causes the Authority to incur costs including environmental costs or penalties, failure of the Federal Highway Administration to participate in certain costs for reasons due to

the Contractor's performance, Authority staff time related to the non-Conformity, penalties, or other damages of any nature whatsoever ("damages"), then the Contractor shall be liable to the Authority for such Damages. The Authority, at its option, and without liability, may deduct such Damages from amounts otherwise due the Contractor and/or postpone disbursement of Progress Payments until the non-Conformity is corrected.

108.8 Final Payment Following conditional acceptance of the physical Work under subsection 107.9.3 the Authority will prepare a final Invoice reflecting final quantities of the items of Work performed. The Authority may require the Contractor to provide information necessary to substantiate Pay Items, including Statements itemizing Force Account Work. The Authority will make final payment upon approval of the Authority's board, in the amount of the Work done, less all previous payments and all amounts to be retained or deducted under the provisions of the Contract. For a related provision, see Section 107.9.5 - Final Acceptance.

The Acceptance by the Contractor of the final payment, as evidenced by cashing of the final payment check, constitutes a release to the Authority from all claims and liability under the Contract. Upon Final Acceptance, the Contractor is released from further obligation, except for warranty obligations provided for in this Contract.

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.

108.9 General Payment Provisions

108.9.1Full Compensation - Payments to the Contractor shall be full compensation for furnishing all labor, Equipment, Materials, services, and Incidentals used to perform all Work under the Contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of any kind arising from the nature or prosecution of the Work.

108.9.2 No Inflation Adjustments/Interest - No payments due the Contractor will be adjusted for inflation. No interest shall be due and payable on any payment due the Contractor.

108.9.3 Amounts Due the Authority - Unless expressly provided otherwise in this Contract, in cases where the Authority may deduct sums from amounts otherwise due the Contractor and where the sums to be deducted are more than the funds otherwise due the Contractor, the Contractor shall remit all amounts due the Authority within 30 Days of receiving an Invoice from the Authority. After such 30 Days, the Contractor shall be in Default of this Contract and shall not be entitled to any additional cure period. Statutory interest shall accrue after 60 Days of Receipt of the Invoice.

SECTION 109 - CHANGES

Scope of Section This Section contains general provisions related to changes in quantities, scope, time and payment.

109.1 Changes in Quantities -

109.1.1Changes Permitted - The Authority may increase or decrease Pay Item quantities from the estimated quantities shown in the Bid Documents, and such increase or decrease shall not be considered Extra Work. Except as expressly provided otherwise in this Contract, the Contractor shall be paid for actual quantities in place and Accepted at the Unit Prices contained in the Contractor's Bid. The Contractor accepts such payment as full and complete compensation. 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 - If quantities of Major Items vary from the estimated quantities contained in the Bid Documents by more than 25%, then the Department may increase or decrease the Unit Price of such item using the extra work process. For related provisions, see Section 109.3 - Extra Work and Section 109.8 - Contract Modification. If an adjustment to the Unit Price is made, it will apply only to that portion of the actual quantity that is less than 75% of the estimated quantity or more than 125% of the estimated quantity.

109.2 Elimination of Items - Upon written notification to the Contractor, the Authority may entirely eliminate item(s) of Work for any reason, in which case the Authority would be entitled to a credit. For Minor Items, the credit shall be the Contractor's Bid price for the eliminated item(s). For Major Items, the amount of the credit shall be the Contractor's Bid price for the eliminated item(s), less: (A) direct costs actually incurred by the Contractor after Award, including mobilization, shipping, and restocking expenses that the Contractor cannot recoup on other Projects as reasonably determined by the Authority, and (B) 10% for overhead and profit. The Authority may withhold said credit from amounts otherwise due the Contractor.

109.3 Extra Work - The Authority reserves the right to revise the Contract by adding Extra Work. Such revisions neither invalidate the Contract nor release the Surety. The Contractor and/or its Surety agree to perform all such Extra Work. The Authority will compensate for Extra Work by written Contract Modification in accordance with Section 109.7.1 - General and Section 109.7.2 - Basis of Payment. Any Delay related to Extra Work will be analyzed in accordance with Section 109.5 - Adjustments for Delay. For a related provision, see Section 109.8 - Contract Modification.

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 48hours, 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, 104.4.5 Early Negotiation and 109.7.5, Force Account Work.

109.4 Differing Site Conditions -

109.4.1 Definition - "Differing Site Conditions" are subsurface or latent physical conditions that, at the time of Bid submittal, were:

(A) Materially different from conditions indicated in the Bid Documents,
(B) Not discoverable from a reasonable site investigation prior to Bid,
(C) Materially different from conditions ordinarily encountered and generally recognized as inherent in Work like that specified by the Contract by Contractors experienced in such Work, and
(D) Actually unknown to the party seeking relief due to such conditions, which in the case of the Contractor includes its Subcontractors.

109.4.2 Risk of Other Conditions - All costs, Work, Delays, or other damages related to or arising from site conditions that are not Differing Site Conditions are the sole risk and responsibility of the Contractor.

109.4.3 Notice and Procedural Requirements - If the Contractor discovers what it considers to be Differing Site Conditions that may justify adjustments to compensation, time, or other Contract requirements, the Contractor shall provide a "Notice of Issue for Consideration" within 48 hours of discovery and before doing any Work relating to such conditions as provided in Section 104.4.5 - Early Negotiation. The Contractor shall then comply with all other requirements of Section 104.4.5 - Early Negotiation, and Section 111 - Resolution of Disputes. The Contractor will not be entitled to any change to compensation, time, or Work requirements without proper notice as specified herein. Failure to provide such notice or to otherwise comply with this Section 109.4 will constitute a waiver of all claims related to such conditions.

If the Authority discovers what it considers Differing Site Conditions that may justify

adjustments to compensation, time, or other Contract requirements, then the Authority will provide the Contractor with notice within 48 hours of discovery. If the Contractor disagrees with the Authority's finding of Differing Site Conditions or the related adjustments, then the Contractor shall provide "Notice of Issue for Consideration" within 48 hours and comply with the requirements of Section 104.4.5 - Early Negotiation and Section 111 - Resolution of Disputes.

109.4.4 Investigation/Adjustment - Upon notification by the Contractor or upon the Department's own initiative, the Department will investigate the conditions. If the Authority determines that Differing Site Conditions exist and that the Differing Site Conditions justify an increase in the cost or time allowable for performance of the Work, then the Contractor is entitled to an Equitable Adjustment for the additional costs in accordance with Section 109.7, Equitable Adjustments to Compensation and Time, - Basis of Payment that are caused directly and solely by the Differing Site Conditions. If the Authority determines that Differing Site Conditions exist and that the Differing Site Conditions have caused a decrease in the cost or time required for the performance of the Work, then the Authority is entitled to a credit in the amount of savings to compensable items in accordance with Section 109.7, Equitable Adjustments to Compensation and Time, that are caused directly by the Differing Site Conditions. Delays caused by Differing Site Conditions will be considered in accordance with Section 109.5 - Adjustments for Delay.

109.5 Adjustments for Delay -

109.5.1 Definitions – Types of Delays - Delays are defined as follows and may be divided into more than one type depending upon cause.

A. Excusable Delay: Except as expressly provided otherwise by this Contract, an "Excusable Delay" is a Delay to the Critical Path that is directly and solely caused by: (1) 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 adjustment of time if the Project falls within the geographic boundaries prescribed under the disaster declaration. (2) a flooding event at the effected location of the Project that results in a Q25 headwater elevation, or greater, but less than a Q50 headwater elevation. Theoretical headwater elevations will be determined by the Authority; actual headwater elevations will be determined by the Contractor and verified by the Authority, or (3) non-weather Uncontrollable Events.

B. Compensable Delay: A "Compensable Delay" is a Delay to the Critical Path that is directly and solely caused by: (1) 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 and receives

project-specific emergency funds, and the Contractor can show proof that the Work was delayed by this weather event, (2) an Uncontrollable Event caused by a Utility Company , for which the Utility Company reimburses the Authority, (3) an Uncontrollable Event caused by other third party (not Subcontractors) Working on Project-related Work within the Project Limits if, and only if, the third party offers the Authority reimbursement for such Delay, (4) acts by the Authority that are in violation of applicable laws or the Contract, or (5) a flooding event at the effected location of the Project that results in a Q50 headwater elevation, or greater. Theoretical Q50 headwater elevations will be determined by the Authority; actual headwater elevations will be determined by the Contractor and verified by the Authority.

C. Inexcusable Delay: "Inexcusable Delays" are all Delays that are not Excusable Delays or Compensable Delays.

For a related provision, see Section 101.2 - Definition of Uncontrollable Event.

109.5.2 Entitlement to Adjustments

A. Types of Adjustments: Provided the Contractor meets the requirements of Section 109.5.2(B) below and complies with the notification, documentation, and procedural requirements set forth in the Contract, the Contractor is entitled to certain adjustments to the Contract depending upon the type of Delay.

1. If an Excusable Delay, the Contractor is entitled to an extension of time, but no additional compensation.

2. If a Compensable Delay, the Contractor is entitled to an extension of time and an Equitable Adjustment as set forth in Section 109.7 - Equitable Adjustments to Compensation and Time.

3. If an Inexcusable Delay, the Contractor is entitled to neither an extension of time nor additional compensation.

For related provisions, see Sections 104.2.7 - Damage to Project Caused By Uncontrollable Events and 104.3.10 - Responsibility for the Damage to Work.

B. Requirements for Entitlement: To be entitled to any adjustments for an Excusable Delay or a Compensable Delay, the Contractor must demonstrate all of the following.

1. The Contractor consistently utilized its Schedule of Work to schedule, coordinate, and manage the Work as evidenced by documentation created as the Work progressed including Progress Meeting minutes;

2. The Delay impacted the Critical Path of the Schedule of Work; and

3. There are no concurrent Inexcusable Delays.

C. Concurrent Delays: The Contractor is not entitled to a time extension for the period of time when Excusable and Inexcusable Delays are concurrent. The Contractor also is not entitled to either time extension or an Equitable Adjustment for the period of time when Compensable and Inexcusable Delays are concurrent. In the event Compensable and Excusable Delays are concurrent, the Contractor is only entitled to time extension, not an Equitable Adjustment, for the period of time such Delays are concurrent.

109.5.3 Early Completion Date Delay Claims - For the purposes of this Section 109.5.3, a "Contractor's Early Completion Date" means a Project Completion date shown on the Contractor's initial Schedule of Work submitted in accordance with Section 107.4.2 - Schedule of Work Required that is earlier than the Contract's specified Completion date. The Authority will not be liable for any claims or expenses related to the period of time between the Contractor's Early Completion Date and the Contract's specified Completion date, unless the Contractor demonstrates, by clear and convincing evidence that: (A) all requirements of Section 109.5.2(B) - Requirements for Entitlement are met, and (B) that the Contractor's Early Completion Date was reasonable at the time of Bid in light of the surrounding facts and circumstances, including the Contractor's available resources, and the requirements of the Work.

109.5.4 Notice and Procedural Requirements - If the Contractor becomes aware of facts or circumstances that may cause a Delay for which the Contractor may seek adjustments to compensation, time, or other Contract requirements, the Contractor must notify the Resident of such "Issue" within 48 hours and before doing any Work relating to such facts or circumstances as provided in Section 104.4.5 - Early Negotiation. Except as otherwise provided in this Section 109.5, the Contractor shall then comply with all other requirements of Part 111 - "Resolution of Disputes". The Contractor will not be entitled to any change to compensation, time, or Work requirements without proper and timely notice. Failure to provide such notice constitutes a waiver of all claims related to such conditions.

109.5.5 Documenting the Delay and Request for Adjustments -

A. Weekly Reports During Delay: To be entitled to any adjustments for Delay, the Contractor must keep records as provided in Section 111.1.6 - Contractor's Obligation to Keep Records. Further, the Contractor must submit weekly written reports containing the following information.

1. Number of Days of impact to the Critical Path.
2. A summary of all operations that have been Delayed, or will be Delayed on the impact of the Contractor's Critical Path.
3. A narrative describing how the cause of the Delay meets the definition of "Excusable Delay" or "Compensable Delay" contained in Section 109.5.1(A) or (B).

4. Itemization of all extra costs being incurred, including (A) how the extra costs relate to the Delay, (B) the identification of all non-salaried Project employees for whom costs are being compiled, and (c) a summary of time charges for Equipment, identified by the manufacturer's number for which costs are being compiled.

B. Request and Report After Completion: Within 14 Days of Completion of the phase of Work that the Contractor claims has been Delayed, the Contractor shall submit a written report to the Authority that contains the following information.

1. A description of the operations that were Delayed and the documentation and narrative of how the cause for the Delay meets the definition of "Excusable Delay" or "Compensable Delay" contained in Sections 109.5.1(A) or (B), including all reports prepared for the Contractor by consultants, if used;
2. An as-built chart showing when Work operations were actually performed;
3. A graphic depiction of how the operations were Delayed and the impact on the Critical Path; and
4. An item-by-item request for additional time and compensation for items allowed under Section 109.7.5 - Force Account Work, including measurement and explanation.

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

109.5.6 Decision by Construction Program Manager - Within 30 Days of receiving all information described in Section 109.5.5(B) - Request and Report After Completion, the Construction Program Manager will Deliver a written decision on the request made to the Contractor. Failure to provide a decision within said 30-day period shall be considered a denial of the Contractor's request, unless the parties mutually agree to an extension of time for such decision.

109.5.7Additional Consideration By Authority - If the Contractor does not agree with the decision of the Construction Program Manager the issue should be considered a Dispute and shall be resolved as outlined in Section 111 –Resolution of Disputes.

109.6 Value Engineering -

109.6.1 Overview- General Requirements - A Value Engineering Change Proposal (VECP) is a proposal made by the Contractor after Contract Execution that is intended to produce cost savings without impairing essential characteristics of the Project including function, serviceability, safety, durability, maintainability, and aesthetics, all as determined by the Authority.

A VECP shall contain proven features that have been used under similar conditions. A proposal is not a VECP if equivalent options are already provided in the Contract.

A VECP must be approved by the Authority, in its sole discretion. Unless otherwise agreed in writing, the Contractor and the Authority will equally share the Net Savings generated by the VECP as provided in Section 109.6.4(C) - Contract Modification - Amount of Payment.

Unless mutually agreed otherwise, the VECP approval process will occur in three steps: (A) Conceptual VECP submission and review, (B) Detailed VECP submission and evaluation, and if approved, (C) Contract Modification including the amount of payment due to the Contractor and credit due to the Authority. When the nature and scope of a VECP warrants, the parties may agree to truncate the VECP approval process.

The Maine Turnpike will not participate in any costs borne by the Contractor that are not in accordance with Maine Turnpike policies. 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.

109.6.2 Conceptual VECP

A. Submittal: To propose a VECP, the Contractor must submit a written "Conceptual VECP" to the Resident. The Conceptual VECP is not a formal and complete submittal based upon detailed technical analysis, but instead relays a conceptual idea based upon the Contractor's knowledge and experience. The Conceptual VECP should include the following information:

1. General Description: A narrative that describes the proposed change in concept and includes the basic differences between the existing Contract and the proposed change.

2. Advantages and Disadvantages: A listing and brief description of the comparative advantages and disadvantages of the VECP including effects on function, serviceability, safety, durability, maintainability, aesthetics, and any other factors significantly altered by the VECP.

3. Estimate of Net Savings: An estimate of the Net Savings as defined in Section 109.6.4(C) - Contract Modification - Amount of Payment.

4. Savings and Schedule Impacts: An estimate of the time necessary for the Contractor to submit a Detailed VECP. Such estimate must specify the date by which the Authority must approve the VECP to obtain the maximum cost

reduction, and the latest date by which the Authority must approve the VECP for the Contractor to avoid significant impacts on the estimated Net Savings or the Contractor's Schedule of Work. If the Authority determines that the time for response is insufficient for review, the Contractor will be so notified.

B. Conceptual Review and Response: The Authority will use its best efforts to review a Conforming Conceptual VECP and respond to the Contractor within 14 Days of Receipt. The Authority may, at its sole discretion, (1) invite the Contractor to submit a Detailed VECP, (2) reject the Conceptual VECP for reasons that will be described briefly, or (3) request additional information. The Authority may also, in its sole discretion, agree to partially reimburse the Contractor for the costs to develop and submit a Detailed VECP.

109.6.3 Detailed VECP -

A. Submittal: If the Authority invites the Contractor to submit a Detailed VECP, it shall contain the following information that is sufficient in detail to clearly define and explain the proposed change(s):

1. Updated and more complete information regarding items included in the Conceptual VECP, including the general description of the VECP, advantages and disadvantages, use, or testing performed elsewhere a detailed computation of the estimated Net Savings generated in accordance with Section 109.6.4(C) - Contract Modification - Amount of Payment, actual VECP development costs to date, and estimated savings and schedule impacts including approval date(s) required. If the Department determines that the proposed time for response is insufficient for review, the Contractor will be notified promptly.

2. A complete set of Plans and Specifications showing the proposed revisions relative to the original Contract features and requirements. All VECP's that require engineering design, computations, or analysis shall be prepared under the responsible charge of, and sealed by, a Professional Engineer licensed in the State of Maine.

B. Evaluation

1. Additional Information: The Authority may request any additional information that it determines is necessary to properly evaluate the VECP. Where design changes are proposed, such additional information may include results of field investigations and surveys, design computations, specifications, and field change sheets. The Contractor will promptly provide any such requested information.

2. Cost Verification: The Authority may require the Contractor to provide additional information to verify the Contractor's cost analyses.

C. Response: The Authority will evaluate a Conforming Detailed VECP and provide the Contractor with a written response within 14 Days of Receipt of all of the information it has determined is necessary to properly evaluate the VECP. Such response will include a brief description of the Authority's reason(s) for its decision. The Authority, at its sole discretion, will either: approve the Detailed VECP, approve it with conditions, or reject it. The Authority may base its decision on any reason that is in the best interest of the Authority including, but not limited to: (1) unacceptable impact on the function, serviceability, safety, durability, maintainability, or aesthetics of the Project, (2) insufficient testing or use of the VECP concepts elsewhere, (3) insufficient justification of cost savings, (4) unacceptable schedule impacts, (5) insufficient review time, or (6) differing engineering judgment. The Contractor may request that the Authority reconsider certain portions of the decision. If requested, the Authority may reconsider its decision or may decline to reconsider its decision. Any decision by the Authority under this subsection is final and not subject to review or appeal.

D. Termination of VECP Process: If the Authority rejects the VECP or the Contractor does not desire to proceed with the VECP as approved by the Authority, the VECP process will terminate and the Authority will reimburse the Contractor for .100 percent of all VECP development costs incurred by the Contractor to date.

109.6.4 Contract Modification-Amount of Payment - If the VECP is approved, or if it is approved with conditions, and the Contractor wants to proceed, a Contract Modification will be executed by the parties. In addition to the requirements of Section 109.8 - Contract Modifications, the VECP will set forth the net savings generated by the VECP, which shall be split equally between the Contractor and the Authority, per the following formula:

NS EGS - CDC – DVEC

Where:

NS = Net Savings, generated by the VECP, as determined by the Department.

EGS Estimated Gross Savings, which is the difference between the cost of performing the Work as originally specified in the Contract and the cost of performing the Work as revised by the VECP, at agreed upon or lump sum prices.

CDC Contractor's Development Costs, related to the preparation of the Detailed VECP including costs of the Contractor's design subconsultants and Subcontractors. The Department shall reimburse the Contractor for these costs.

AVEC Authority's VE Costs, related to review, approval, and implementation of the VECP including design costs, field inspection, and the value of any

Authority provided property.

Once the Contract Modification is executed, the Contractor may be paid for its actual Authority Costs. The Contractor's share of the Net Savings shall not be disbursed until the work is complete and the actual Net Savings is known.

The Contract Modification shall also set forth any adjustments to Contract Time related to the Work as revised by the VECP, if any.

109.6.5 Subsequent Payment Adjustments - Upon Completion of the portion of the Work revised by the VECP, the Authority, on its own initiative or upon request by the Contractor, may review the actual net savings realized by the VECP. The Contractor will be afforded an opportunity to review and comment on such a review. If the actual net savings was greater than set forth in the Contract Modification, the increased savings will be shared equally by the parties. If the net savings was less than set forth in the Contract Modification, the reduction in savings will be borne equally by the parties.

109.6.6 General Conditions Regarding VECP's -

A. VECP's will remain the property of the Contractor, provided that the Authority will have the unrestricted right to use any approved VECP, or any VECP in which the Authority has reimbursed the Contractor for any portion of the development costs, on other Authority Projects without notice, cost, or liability to the Contractor.

B. Only the Contractor may submit VECP's. The Contractor shall review, be responsible for, and submit all proposals initiated by the Contractor's Subcontractors.

C. The Contractor shall not anticipate Authority approval of a VECP when Bidding or otherwise. The Contractor is responsible for all Delays caused by the VECP that were not negotiated in the Contract Modification.

D. If a VECP is rejected, the Contractor shall perform the Work in accordance with the Contract.

E. Except as otherwise provided in this Section 109.6, the Contractor shall have no claim against the Authority for additional compensation or time resulting from the Delayed review or rejection of a VECP, including, but not limited to, development costs, loss of anticipated profits, and increased Material or labor costs.

F. Cost sharing applies only to the Contract for which the VECP was submitted.

G. Because the Authority has no obligation to change the terms of the original Contract, all VECP decisions by the Authority are final and are not subject to the Dispute resolution provisions provided in this Contract or otherwise available at law.

109.7 Equitable Adjustments to Compensation and Time -

109.7.1 General - Equitable Adjustment means an adjustment to compensation due to a change in the nature or scope of Work as defined in this Section 109.

This Section 109.7 applies to all changes to the nature or scope of the Work excepting: (A) changes in quantities, which are governed by Section 109.1, (B) elimination of items of Work which is governed by Section 109.2, and (C) payment for Value Engineering Change Proposals, which is governed by Section 109.6.

109.7.2 Basis of Payment - Adjustments will be established by mutual Agreement based upon Unit or Lump Sum Prices which include labor, materials, mark-up, overhead, and time. These agreed upon Unit or Lump Sum prices will be full compensation and no additional overhead, profit, mark-ups or fees are allowed. If Agreement cannot be reached, the Contractor shall accept payment on a Force Account basis as provided in Section 109.7.5 - Force Account Work, as full and complete compensation for all Work relating to the Equitable Adjustment.

109.7.3 Reserved- VACANT

109.7.4 Non-Compensable Items - The Contractor is not entitled to compensation or reimbursement for any of the following items:

A. Lost profits or lost opportunity costs,

B. Labor inefficiencies,

C. Consequential damages, including but not limited to loss of bonding capacity, loss of Bidding opportunities, and insolvency,

D. Indirect costs or expenses of any nature,

E. Dispute resolution costs of any nature including attorney's fees, claims consultant fees, expert witness fees, claims preparation expenses, and costs related to DRB proceedings, mediation, arbitration, or litigation, and

F. Interest.

109.7.5 Force Account Work - Compensation for Force Account Work will be computed according to this Subsection.

A. Labor: The Contractor will receive the actual hourly wages paid to Workers actually engaged in the changed Work and the foreman in direct charge of the changed Work as determined from certified payrolls, plus 90 percent of the sum thereof for all fringe benefits, payroll taxes, overhead, and profit.

B. Materials: For Materials incorporated in the permanent Work, the Contractor

will receive the Actual Cost of Materials including freight and Delivery charges (but excluding any sale or use tax) plus a single 15 percent markup. For all Materials not incorporated in the permanent Work, the Contractor will receive the difference of actual value of such Material at the time of its use less the fair salvage value of Material when released, plus 15 percent of said difference. There shall be no markup on markups.

C. Equipment: For all authorized usage of power-operated machinery, trucks, or other Equipment, the Contractor will receive the rental rates for the actual time to the nearest 1/4 hour that such Equipment is in operation on the Work. Time spent moving Equipment within the Project Limits and any approved idle time may be measured for payment when authorized. Time spent servicing, maintaining, and changing attachments will not be paid for. The rental rates shall include the cost of all fuel oil, lubrication, supplies, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, small tools, and all other Incidentals.

The maximum Hourly Equipment rental rates (R) will be determined using the most current Blue Book rates and the following formula:

$$R = A \times B \times E + C + D$$

Where:

A Blue Book monthly rate divided by 176
B Blue Book regional adjustment factor for Maine
C Blue Book estimated operating costs per hour
D Operator's hourly payroll rate plus 90 percent
E Factor from the Rate Adjustment Table for the year the machine was made

When the Contractor's Equipment is ordered to be available for Force Account Work, but is idle for reasons not the fault of the Contractor, standby time will be paid at 70% of the hourly Equipment rental rate excluding all operating costs.

For each piece of Equipment, the Contractor shall provide the following information: the manufacturer's name, Equipment type, year of manufacture, model number, type of fuel used, horsepower rating, attachments required, together with its size or capacity and any further information necessary to ascertain the proper rate. The Contractor shall also provide a photocopy of the appropriate pages from the Blue Book that were used to arrive at the rates and prepare a chart that fully shows all the details of the Equipment costs.

Unless otherwise specified, manufacturer's ratings and manufacturer-approved modifications will be used to classify Equipment for the determination of applicable rental rates. A unit of at least the minimum rating recommended by the manufacturer shall power equipment that has no direct power unit.

If the Authority specifies Equipment not listed in the above publication, the Authority will establish a suitable rate for such Equipment. 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.

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% markup for administrative costs.

D.Superintendence: No part of the salary or expense of anyone connected with the Contractor above the grade of foreman or having general supervision of the Work will be included in the labor items as specified above, except when the Contractor's entire on-site Workforce is occupied with Force Account Work, in which case the salaries of the Superintendent may be included in the labor item specified above when the nature of the Work is such that their services are required, as determined by the Department.

E. Documentation Requirements: All Statements shall be accompanied and supported by Receipted Invoices for all Materials used and transportation charges. If Materials used on the Force Account Work are not specifically purchased for such Work but are taken from the Contractor's stock, then instead of Invoices, the Statements shall contain or be accompanied by an affidavit of the Contractor certifying that such Materials were taken from stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the Actual Cost to the Contractor, excluding storage costs.

No payment will be made for Work performed on a Force Account basis until the Contractor has furnished duplicate itemized Statements of the cost of such Force Account Work detailed to the following:

1) Name, classification, date, daily hours, total hours, rate, and amount for each foreman and laborer.

2) Designation, dates, daily hours, total hours, rental rate, and amount for each unit of Equipment.

3) Quantities of Materials, prices, and amounts.

4) Transportation charges on Materials.

F. Subcontractor Quoted Work When accomplishing Force Account Work that utilizes Subcontractors quoted Work, the Contractor will be allowed a maximum markup of 5% for profit and overhead on the Subcontractor's portion of the Force Account Work. If the Department does not accept the Subcontractor quote, then the Subcontractor work will be subject to the Force Account provisions with a 5% markup for profit & overhead.

109.8 Contract Modification: Excepting changes to quantities as provided in Section 109.1.1 - Changes Permitted, all changes to the Contract that affect compensation, time, or quality must be made by written Contract Modification. The Contract Modification will describe the underlying issue that resulted in the Contract Modification and will specify adjustments to compensation, time, or other Work requirements, as applicable. If adjustments to compensation or time are not shown on the face of the Contract Modification, then there are no such adjustments.

All Contract Modifications must be signed by the Project Manager or Resident. By signing a Contract Modification, the Contractor agrees to all the terms thereof and waives any and all claims for additional compensation, time, or other Work requirement adjustments relating to the issue that is the subject of the Contract Modification. All Contract Modifications are to be noted in Progress Meeting minutes.

SECTION 110 - INDEMNIFICATION, BONDING AND INSURANCE

Scope of Section This Section contains general requirements for indemnification, bonding, and insurance by the Contractor.

110.1Indemnification - The Contractor agrees to indemnify , defend , and hold harmless the Authority and its officers, directors, employees, agents and consultants from and against all claims, actions, torts, costs, losses, and damages for bodily injury (including sickness, disease, or death) and property damage arising out of or relating to this Contract or the performance of Work by the Contractor, its Subcontractors, subconsultants, Engineers, suppliers, any individuals or entities directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, excepting only claims directly and solely caused by the negligence of the Authority. Damages covered include, but are not limited to, all Dispute resolution costs including court costs, attorney's fees, and the fees of Engineers and consultants, arbitrators, and other professionals related to Dispute defense and preparation.

This indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any Subcontractor, subconsultant, Engineer, supplier, or other individual or entity under Workers' Compensation acts, disability benefit acts, or other employee benefit acts.

110.2 Bonding

110.2.1Bonds - The Bidder to whom the Contract is awarded shall furnish a Surety Corporation Bond, satisfactory to the Authority, from a company 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. If the Surety becomes insolvent, ceases to be licensed or approved to do business in the State of Maine, or ceases operations in the United States, the Contractor shall forthwith furnish and maintain as above provided, other security satisfactory to the Authority, within 10 Days of the date the Contractor is notified of such change.

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 designees for compensation not to exceed the Contract Price less the aggregate of prior payments to the Contractor.

By issuing a bond, the Surety agrees to be bound by all terms of the Contract, including those related to payment, time of performance, quality, warranties, and the Authority's self-help remedy provided in Section 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 these bonds, 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. This notice shall be provided both to the claimant and to the Authority. 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.

If the Surety becomes financially insolvent or stops operating in the United States, the Contractor shall file new bonds complying with this Section within 10 Days of the date the Contractor is notified of such change.

For a related provision, see Section 106.9.4 - Other Warranty Provisions.

110.2.2 Bond for Use of Municipal Roads - A bond for use of municipal Roads may be required as provided in Section 105.5 - Hauling of Materials and Equipment.

110.2.3 Bonding for Landscape Establishment Period - The Contractor shall provide a Landscape Warranty Bond acceptable to the Authority, to the Authority as a condition of Final Acceptance.

The Bond shall be in the full amount of 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. Payment shall be incidental to the Contract. 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 Authority'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 - The Contractor shall provide signed, valid, and enforceable certificate(s) of insurance complying with this Section. All insurance must be procured from insurance companies licensed or approved to do business in the State of Maine by the State of Maine, Department of Business Regulation, Bureau of Insurance. The Contractor shall pay all premiums and take all other actions necessary to keep required insurances in effect for the duration of the Contract obligations, excluding warranty obligations.

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 Authority 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. All costs thereof shall be included in the prices bid for the various items scheduled in the Proposal.

The Authority reserves the right to adjust the liability coverage and limits required by this section by Special Provision on a Project by Project basis.

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.

110.3.1 Workers' Compensation - For all operations performed by the Contractor and any Subcontractor, the Contractor and each Subcontractor shall carry Workers' Compensation Insurance or shall qualify as a self-insurer with the State of Maine Workers' Compensation Board in accordance with the requirements of the laws of the State of Maine. If maritime exposures exist, coverage shall include United States Long Shore and Harbor Workers coverage.

110.3.2 Commercial General Liability - With respect to all operations performed by the Contractor and any Subcontractors, the Contractor and any Subcontractors shall carry commercial general liability insurance in an amount not less than $1,000,000.00 per occurrence and $2,000,000.00 in the Aggregate. The coverage must include products, completed operations, and Contractual liability coverages, and Insurance Services Office (ISO) form #CG25031185 or equivalent. The Contractual liability insurance shall cover the Contractor's obligations to indemnify the Department as provided in this Contract including Section 110.1 - Indemnification. The coverage shall also include protection against damage claims due to use of explosives, collapse, and underground coverage if the Work involves such exposures.

When the work to be performed entails the use of barges, tug boats, work boats, supply boats, etc., Protection and Indemnity coverage shall be provided at the limits called for under Commercial General Liability insurance.

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.

110.3.3 Automobile Liability - The Contractor shall carry Automobile Liability Insurance covering the operation of all motor vehicles including any that are rented, leased, borrowed, or otherwise used in connection with the Project. The minimum limit of liability under this Section shall be $1,000,000.00 per occurrence.

110.3.4 Professional Liability - 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. "Design Work" includes the design of temporary Structures and all other Work that requires design computations. This policy shall cover "Wrongful Acts," meaning negligent acts, errors or omissions by the Contractor, or any entity for whom the Contractor is legally liable, arising out of the performance of, or failure to perform, professional services. The Department reserves the right to adjust liability coverage on a project-by project basis as it deems appropriate.

110.3.5 Owners and Contractors Protective Liability - For Projects with a Contract price in excess of $500,000, an “Owner’s Protective” policy, naming the Authority as the sole insured party with a $5,000,000 limit, shall also be provided.

110.3.6 Builders Risk - Unless required by Special Provision, the Department does not require the Contractor to carry Builders Risk Insurance. However, the Contractor is advised of its risks for damage to the Work as provided in Section 104.3.10 - Responsibility for Damage to the Work. The Contractor is responsible for managing and insuring these risks as it deems appropriate.

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.

110.3.7 Pollution Liability - If required by Special Provision, the Contractor shall carry Pollution Liability insurance to cover the risk of sudden or accidental discharge of pollutants during the prosecution of the Work. The limits of liability for this coverage shall be in the amount of $1,000,000.00 per occurrence and $2,000,000.00 in the Aggregate. Regardless of whether such insurance is carried by the Contractor, the Contractor is responsible for managing these risks as it deems appropriate.

110.3.8 Railroad Protective Liability - When working adjacent to a railroad, the Contractor and Subcontractors shall carry Railroad Protective Liability Insurance as required by the Railroad.

110.3.9 Administrative & General Provisions

A. Additional Insured

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. Contractor shall provide the Authority with adequate proof of its Additional Insured status, including but not necessarily limited to Certificates of Insurance and copies of Endorsements from the applicable policies evidencing the status of the Authority as Additional Insured.

B. Defense of Claims Each insurance policy shall include a provision requiring the carrier to investigate, defend, indemnify, and hold harmless all named insureds against any and all claims for death, bodily injury, or property damage, even if groundless.

C. Primary Insurance The insurance coverage provided by the Contractor shall be primary insurance with respect to Authority. Any insurance or self-insurance maintained by the Authority is in excess of the Agent's insurance and shall not contribute with it.

D. Reporting Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Authority.

E. Separate Application The insurance provided by the Contractor shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

Nothing in this document constitutes a waiver of any defense, immunity or limitation of liability that may be available to the Department, or its officers, agents or employees under the Maine Tort Claims Act (Title 14 M.R.S.A. 8101 st. seq.), and shall not constitute a waiver of other privileges or immunities that may be available to the Department.

SECTION 111 - RESOLUTION OF DISPUTES

Scope of Section This Section contains provisions for resolving Disputes early, efficiently, fairly, and as close to the Project level as possible. For related provision, see Section 104.4 - Communication and Coordination.

111.1 General -

111.1.1Definitions - "Dispute" is defined in Section 101.2 - Definitions. "Issue," is defined in Section 104.4.5 – Early Negotiation. Additionally, an "Issue" as used in Sections 111.1 through 111.3 below, is a matter that may give rise to a Dispute.

111.1.2 Escalation Process - 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 may be appealed to the MTA Executive Director. If the Contractor is dissatisfied with the MTA Executive Director's decision, the Contractor may request an Alternate Dispute Resolution (ADR) process, as outlined in this Section. All costs of ADR shall be shared equally.

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.

It is the intent of this Specification to retain maximum flexibility for the specific procedures for 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.

111.1.3 Relationship to Partnering - With the exception of the decision matrix developed pursuant to Section 104.4.2 Preconstruction Conference, partnering including the establishment of a partnership charter, does not in any way waive, alter, or otherwise affect any provision of the Contract including those requiring notice and all other provisions governing the resolution of Issues or Disputes. For a related provision, see Section 104.4.1 - Partnering.

111.1.4 Mandatory Notice - The Contractor shall comply with all notice provisions of this Contract relating to Issues or Disputes including those contained in Sections 104.3.3 - Duty to Notify If Ambiguities Discovered; 104.4.5(A) - Early Negotiation, Notice Required; 109.4.3 - Differing Site Conditions, Notice and Procedural Requirements; 109.5.4 - Adjustments for Delay, Notice and Procedural Requirements; and 111 - Resolution of Disputes. In order to promote the purposes of this Section 111, all notice provisions are mandatory and are to be strictly construed. Failure to provide Conforming notice constitutes waiver by the Contractor of any and all claims to additional compensation, time, or modification of Contract requirements related to the Issue or Dispute.

111.1.5 Work to Proceed Despite Issue or Dispute Regardless of the status or disposition of any Issue or Dispute, the Contractor and the Authority must perform their Contractual responsibilities Promptly and diligently. Unless expressly directed otherwise by the Authority, the Contractor shall proceed without Delay to perform the Work or to Conform to the decision or Order of the Authority.

111.1.6 Contractor's Obligation to Keep Records Throughout the course of any Issue or Dispute, the Contractor shall keep daily records, including supporting documentation, of extra

costs and time related to the Issue or Dispute. Such records shall include all non-salaried labor, Material costs, Equipment expenses, and location for all operations that are affected by the Issue or Dispute. The Contractor will not be entitled to any change to compensation, time, or Work requirements without such records. The Contractor shall permit the Department daily access to and shall provide copies of these and any other records needed for evaluating the Dispute. The Contractor shall retain those records for the duration of the Dispute and as provided in Section 104.3.6 - Project Records.

111.1.7 Dispute Resolution Time Extensions All deadlines provided in this Section 111 may be extended only by mutual written consent signed by both parties.

111.1.8 VACANT

111.1.9 Contract Modification Required All changes to the Contract that regard Issues or Disputes and that affect compensation, time, quality, or other Contract requirements must be made by written Contract Modification as provided by Section 109.8 - Contract Modification.

SECTION 112 - DEFAULT AND TERMINATION

Scope of Section This Section contains general provisions related to Default and termination of the Contract.

112.1 Default

112.1.1 Grounds for Default The Contractor and the Surety are in Default of the Contract if the Contractor or the Surety:

A. Fails to Promptly begin the Work under the Contract after being authorized to proceed,

B. Fails to perform the Work with sufficient labor, Equipment, or Materials to assure the timely Completion of the Work,

C. Performs Defective Work, neglects or refuses to uncover, remove or rebuild Unacceptable Work, or neglects or refuses to uncover Unauthorized or Uninspected Work when directed by the Authority,

D. Discontinues the prosecution of the Work without Authority approval,

E. Continues to perform Work after the Authority directs that Work be stopped,

F. Fails to resume Work which has been suspended as required by the Contract,

G. Becomes insolvent or is declared bankrupt or commits any act of bankruptcy or insolvency that could affect the Work in any way,

H. Allows any final judgment to stand against the Contractor unsatisfied for a period of ten Days,

I. Makes an assignment for the benefit of creditors without authorization by the Authority, or

J. In any other manner, fails to perform the Work in Substantial Conformity with any material provision of the Contract.

112.1.2 Notice of Default/Cure - Except as otherwise provided in this Contract, if Default occurs, the Authority may give written Notice of Default to the Contractor and its Surety. Failure to give Notice of Default is in no way a waiver by the Authority of any provision of the Contract.

If the Contractor or Surety fails to completely cure such Default within a period of 14 Days after Notice of Default, then the Authority may (A) terminate the Contract for cause in accordance with Section 112.2.1 - For Cause, or (B) take prosecution of the Work away from the Contractor without violating the Contract,.

112.2 Termination - The Authority may, by written order to the Contractor, terminate the Contract as provided in this Section 112. Termination of the Contract or portion thereof shall not relieve the Contractor of its Contractual responsibilities for the Work completed (including warranty obligations), nor shall it relieve the Surety of its obligation for claims arising from the Work or the Contract.

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.

112.2.1 For Cause - If the Contractor fails to completely cure all Defects identified in the Notice(s) of Default provided for in Section 112.1.2 within the 14-day cure period provided, the Authority may immediately terminate the Contract for cause by written Notice of Termination For Cause. In this event, the Authority may use any or all Materials and Equipment for the Work and may enter into an Agreement with another entity for the Completion of the Work, or use such other methods as in the opinion of the Authority are required for the Completion of the intent of the Contract in an acceptable and timely manner.

The Authority will pay for all Accepted items of Work as of the date of Termination at agreed upon prices. Items eliminated in their entirety by Termination will be paid for as provided in Section 109.2 - Elimination of Items, except that there will be no reductions in the amount of the credit to the Authority. The Contractor shall make all Work records available to the Authority upon request regarding payment under this Section. All costs and charges incurred by the Authority, together with the cost of completing the Work specified in the Contract, will be deducted from amounts otherwise due the Contractor. If such expenses exceed

the sum that would have been payable under the Contract, then the Contractor and the Surety are liable and shall pay to the Authority the amount of such excess within 30 Days of the Delivery of a Statement setting forth such expenses to the Contractor and the Surety, as applicable.

If the Contractor files for bankruptcy at any time before expiration of the warranty periods provided by this Contract, then the Contractor and its Surety agree, if requested by the Authority and within 30 Days of such request, to take all actions necessary or convenient to reject or accept this Contract under the executory Contract provisions of the federal bankruptcy code.

112.2.2 For Convenience - The Authority may terminate this Contract for convenience or for any reason that is in the best interest of the Authority. Terminations caused without fault of or for reasons beyond the control of the Contractor are Terminations for Convenience. The Authority will notify the Contractor of such terminations by sending a Notice of Termination for Convenience.

In case of a Termination for Convenience, the Authority will pay for all Accepted items of Work as of the date of termination at agreed upon prices. Items eliminated in their entirety by Termination will be paid for as provided in Section 109.2 - Elimination of Items. The Contractor shall make all Work records available to the Authority upon request regarding payment under this Section. Acceptable Materials, obtained by the Contractor for the Work but which have not been incorporated therein, may at the option of the Authority be purchased from the Contractor at Actual Cost Delivered to a prescribed location or otherwise disposed of as mutually agreed.

After Receipt of Notice of Termination for Convenience from the Authority, the Contractor may also submit a claim for additional damages or costs not covered above or elsewhere in this Contract to the Project Manager within 60 Days of the effective Termination date. Such claim may include such cost items as idle Equipment time, Bidding and Project investigative costs, overhead expenses attributable to the Project terminated, legal and accounting charges involved in claim preparation, Subcontractor costs not otherwise paid for, idle labor cost if Work is stopped in advance of termination date, guaranteed payments for private land usage as part of the original Contract, and any other cost or damage item for which the Contractor reasonably believes reimbursement should be made. In no event, however, will loss of anticipated profits be considered as part of any settlement.

The Contractor agrees to make the Bid Escrow, Documentation, if any, and its cost records available to the extent necessary to determine the validity and amount of each item claimed.

The Authority will respond in writing to such claim within 60 Days of Receipt. If the Contractor wants additional consideration, the Contractor must Deliver a written "Notice of Unresolved Dispute" to the Director as provided in Section 111.3.1 - Notice of Unresolved Dispute and comply with all other applicable Dispute resolution provisions of Section 111 - Resolution of Disputes.

SUPPLEMENTAL SPECIFICATION

SECTION 401

HOT MIX ASPHALT PAVEMENT

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 Section 401 of these Specifications, and the MaineDOT Policies and Procedures for HMA Sampling and Testing.

401.02 Materials

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

Coarse aggregate, the material retained on the No. 4 sieve, shall consist of angular fragments obtained from crushed quarry stone and be free of dirt or other objectionable materials. Coarse aggregate shall have a Micro-Deval value of 16.0 percent or less as determined by AASHTO T 327. The crushed stone shall have a maximum of 1.0% material finer than the No. 200 mesh when tested in accordance with AASHTO T-11. Flat and elongated particles shall not exceed a maximum of 8% at a 5:1 ratio in accordance with ASTM D-4791. Coarse aggregate angularity shall be a minimum of 95/90 in accordance with AASHTO T-335.

Fine aggregate, the material passing the No. 4 sieve, shall be crushed manufactured sand free from dirt, clay balls, or other objectionable material. Natural sand may be incorporated into the mix at a rate no greater than 10 percent by weight of total aggregate. The unconfined void content of the fine aggregate blend shall be a 45 minimum value when tested in accordance with AASHTO T-304, method A. AASHTO T-176 sand equivalent value shall be 45 minimum.

Asphalt Low Modulus Joint Sealer Asphalt Low Modulus Joint Sealer shall be a modified asphalt and rubber compound designed for sealing and improving the strength and performance of the base asphalt cement and shall conform to ASTM D6690 (AASHTO M324), Type II (formerly ASTM D3405 / AASHTO M301) and the following specifications:

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

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

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

401.021 Recycled Asphalt Materials

Recycled Asphalt Pavement (RAP) may be introduced into the mixture at percentages approved by the Authority. 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 703.081 Class I RAP. Base or shim pavement RAP may be from any source meeting the requirements of 703.081 Class II RAP.

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. Current MaineDOT approved designs will be allowed on local roads.

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

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

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

- Properly completed JMF indicating all mix properties (Gmm, VMA, VFB, etc.).
- Stockpile Gradation Summary.
- Individual aggregate consensus properties
- Design Aggregate Structure Consensus Property Summary.
- Design Aggregate Structure Trial Blend Gradation Plots (0.45 power chart).
- Trial Blend Test Results for at least three different asphalt contents.
- Design Aggregate Structure 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. If the results are found to be acceptable, the Contractor will forward their results to the Authority's Lab, which will test the Authority's split of the sample. The results of the two split samples will be compared and shared between the Authority and the Contractor. If the Authority finds the mixture acceptable, an approved JMF will be forwarded to the Contractor. The Authority will then notify the Contractor that paving may commence. The first day's production shall be monitored, and the approval may be withdrawn if the mixture exhibits undesirable characteristics such as checking, shoving or displacement. The Contractor shall be allowed to submit aim changes within 24 hours of receipt of the first Acceptance test result for an individual JMF. Adjustments will be allowed of up to 2% on the percent passing the 2.36 mm sieve through the 0.075 mm and 3% on the percent passing the 4.75 mm or larger sieves. Adjustments will be allowed on the %PGAB of up to 0.2 percent. Adjustments will be allowed on GMM of up to 0.010.

The Contractor shall submit a new JMF for approval each time a change in material source or materials properties is proposed. The same approval process shall be followed. The cold feed percentage of any aggregate except natural sand may be adjusted up to 10 percentage points from the amount listed on the JMF, however no aggregate listed on the JMF shall be eliminated. Natural sand may be adjusted up to 5 percent from the amount listed on the JMF but shall not exceed 10% by weight of total aggregates. The cold feed percentage for RAP may be reduced up to five percentage points from the amount listed on the JMF and shall not exceed the percentage of RAP approved in the JMF or for the specific application.

TABLE 1
VOLUMETRIC DESIGN CRITERIA

Design ESAL's (Millions)	Required Density (Percent of G_{mm})			Voids in the Mineral Aggregate (VMA)(Minimum Percent) Nominal Maximum Aggregate Size (mm)					Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
	$N_{initial}$	N_{design}	N_{max}	25	19	12.5	9.5	4.75		
10 to <30	≤89.0	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	65-80*	0.6-1.2

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

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

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

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.

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%.

a. 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.

b. 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.

401.091 Material Transfer Vehicle (MTV)

The pavers shall be supplied mixture by a material transfer vehicle (transfer box) (RoadTec SB2500 or approved equal) capable of receiving and storing bituminous mixture from haul trucks, remixing, and delivering the mix to the paver hopper in a consistently uniform manner.

The MTV shall operate as an independent unit not attached to the paver. It shall be a commercially manufactured unit specifically designed to transfer the hot mix from haul trucks to the paver without depositing mix on the roadway.

Also required is a separate hopper with a capacity of 18 mg (20 Ton) that shall be inserted into the regular paving hopper.

The MTV or the hopper insert shall be designed so that the mix receives additional mixing action either in the MTV unit or the paver hopper.

The MTV and the hopper insert will not be measured separately for payment, but shall be incidental to the various Hot Mix Asphalt items.

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. 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 12 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 segments as described above. This includes fresh HMA joints as well as new longitudinal HMA adjoining pavements. 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 ¼ inch by removing defective work and replacing it with new material as directed by the Authority. The Contractor shall furnish a 12 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. HMA Pavement yield shall be calculated and monitored by both the resident and the paving foreman. Yield calculations shall be communicated in real time between both parties throughout the paving operations. 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.

g. A pneumatic tire roller shall be used on the bridge deck membrane just prior to paving.

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. The resident shall determine if trimming is required and the core will be labeled as such.

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 70ºF. Ice or dry ice shall be used to reduce temperature as necessary. All core samples shall be inspected, measured, and sealed in an approved transport container by the Resident. The contractor shall deliver the sealed container to the laboratory for testing by the Authority's representative.

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 the material requirements for Asphalt Low Modulus Joint Sealer 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.

401.165 Longitudinal Joint Density

The Authority will measure the pavement density of longitudinal joints between adjoining mainline travel lanes in both the unconfined and confined condition as determined by the days paving operation.

Pavement joint 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. The edge of the core nearest the joint shall be a 1" offset from the visible longitudinal joint as determined by the resident. Longitudinal core locations shall be

determined by random sampling 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 trimming the underside of the six inch diameter cores if necessary. The resident shall determine if trimming is required and the core will be labeled as such.

For determination of pavement joint 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 the material requirements for Asphalt Low Modulus Joint Sealer and shall be incidental to the pavement items. Care must be exercised to avoid excess joint material on top of the finished 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 minimum density of the completed pavement shall be 92.0 percent of the theoretical maximum density obtained. Two consecutive failing tests shall result in production shut down. Prior to resuming paving operations, the contractor quality control unit shall satisfy the Authority that the paving operation will produce joint densities in compliance with the Specifications.

The pavement will be accepted for joint 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 sublot that has a density lower than 92.0% as outlined below.

PERCENT COMPACTION	PERCENT PAY
92.0 or greater	100
90.0 to 91.9	95
89.0 to 89.9	85
88.9 or less	0

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.

Mainline Longitudinal joints shall be constructed as notched-wedge joint and constructed in a manner that will best ensure joint integrity.

The installation of the longitudinal joint shall be straight and true to the direction of travel and be located within 1-1/2" of the layout line. Deviations and or crossing back and forth over the layout line shall not be permitted and any such deviations or meandering shall be corrected by sawcutting the affected area prior to placing the adjacent lane with no additional cost to the Authority. 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. On the notched-wedge joints a double layer of tack shall be applied. 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 if they are not a notched-wedge joint 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 the material requirements for Asphalt Low Modulus Joint Sealer.

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, and provide these results, 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 one 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 T164 or T308) 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. Mechanical shaker and appropriate sieves (listed in 639.06) meeting the requirements of ASTM E11.
13. Superpave gyratory compactor.
14. Oven, thermostatically controlled, inside minimum one cubic foot.
15. Two volumetric specific gravity flasks, 500 CC.
16. Other necessary hand tools required for sampling and testing.
17. Library containing Contract Specification, latest ASTM Volumes 4.03 and 4.04, AASHTO Materials Parts I and II.
18. Equipment for Maximum Theoretical Density meeting the requirements of AASHTO T209 and equipment for Bulk Spec. Gravity meeting the requirements of AASHTO T166.
19. Infra-red temperature measuring device for use at both plant and Project site.

20. Necessary equipment for PGAB Content testing.

21. Diamond blade saw for trimming pavement cores.

22. Two ovens.

23. 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	85
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	85
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.

SUPPLEMENTAL SPECIFICATION

SECTION 502

STRUCTURAL CONCRETE

Section 502, Structural Concrete, 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

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 Prequalified 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 underside 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 Prequalified 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.

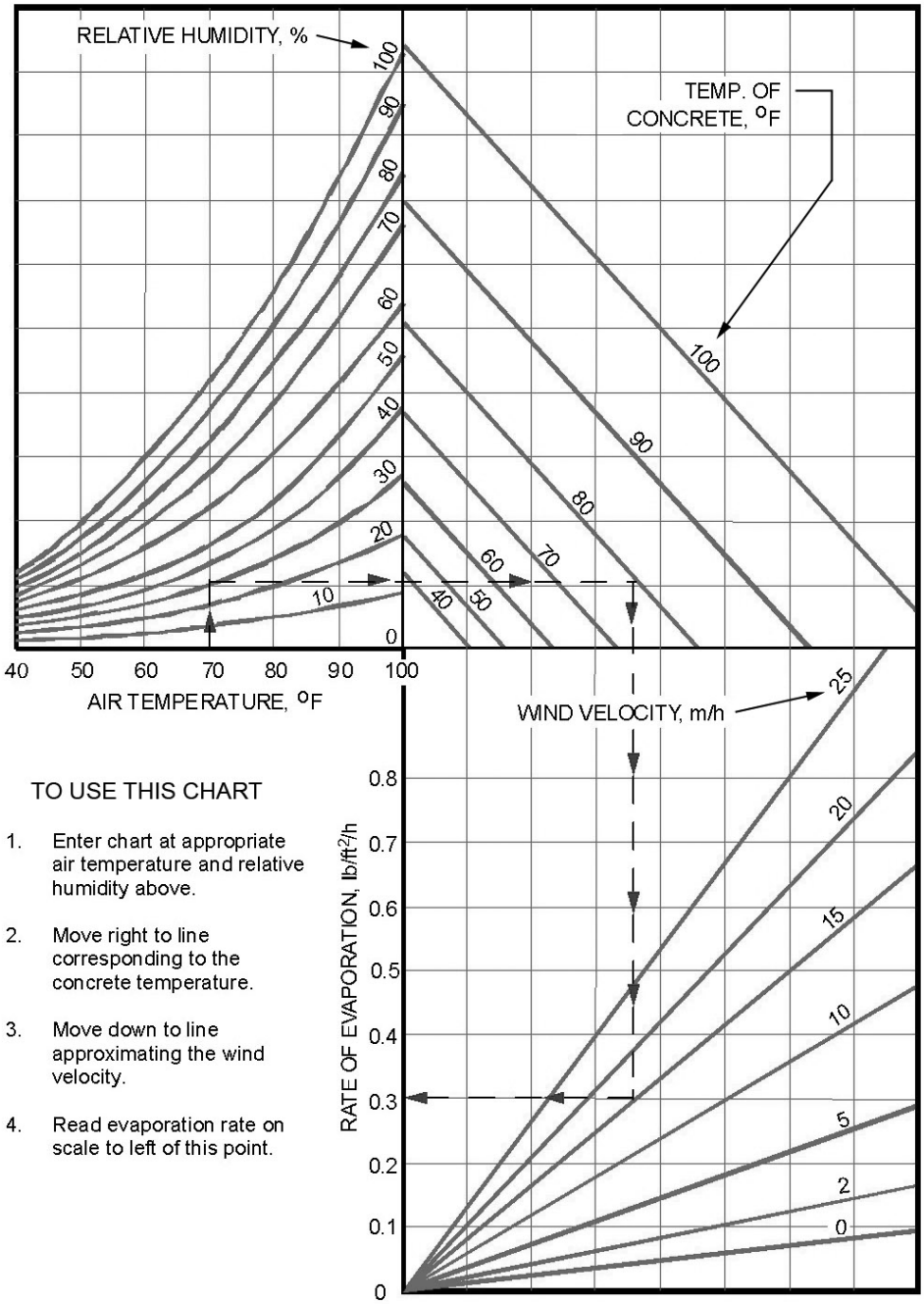
No water shall be added after initial mixing. The grout shall not be allowed to separate before placement. The cement to water contact time of the grout shall not exceed 30 minutes before it is placed. Any grout that has dried or become unworkable before application, as determined by the Resident, shall 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 List of Prequalified 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



TO USE THIS CHART

1. Enter chart at appropriate air temperature and relative humidity above.
2. Move right to line corresponding to the concrete temperature.
3. Move down to line approximating the wind velocity.
4. Read evaporation rate on scale to left of this point.

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.

502.18 Method of Measurement

A. Structural concrete satisfactorily placed and accepted will be measured by the cubic yard, in accordance with the dimensions shown on the Plans or authorized changes in the Plans, or as one lump sum unit as indicated in the Schedule of Items.

Structural Concrete for any irregular shapes may be measured by the cubic yard as determined from the theoretical yield of the design mix or in the case of transit mixed concrete, by delivery ticket as approved by the Resident.

B. The limits to be used in determining the quantities of the aforementioned structural concrete items for arriving at a lump sum price will be as follows:

1. Structural Concrete Superstructure Slabs, Structural Concrete Roadway and Sidewalk Slabs on Steel Bridges, Structural Concrete Roadway and Sidewalk Slabs on Concrete Bridges and Structural Concrete Superstructure T-Beam Type. The limits will be the entire concrete superstructure, outside to outside, both transversely and longitudinally, exclusive of concrete curbs, sidewalks, permanent transition barrier and concrete transition barriers.

2. Structural Concrete Wearing Surfaces. The limits will be the entire concrete wearing surface bounded transversely by the roadway curbs and longitudinally by the extreme ends.

3. Structural Concrete Box Culverts. The limits will be the entire structure, meaning the bottom floor slab, abutments, wings, superstructure floor slab and headwalls or curbs.

4. Structural Concrete, Approach Slabs. The limit will be the entire approach slab or slabs, as shown on the Plans.

5. Structural Concrete, Abutments and Retaining Walls Structural Concrete, Abutments and Retaining Walls (placed under water), Structural Concrete Piers, and Structural Concrete Piers (placed under water). The limits will be the entire concrete substructure unit or units, from the bottom of the footing to the top of the unit, and outside to outside, both transversely and longitudinally, except for the portion to be placed under water, as indicated on the Plans, which will be the limits of the concrete unit or units, outside to outside, transversely, longitudinally, and vertically.

6. Structural Concrete Rigid Frame Structures. The limits will be the entire concrete structure, meaning the frame walls and top slab. Included within the limits for payment, unless otherwise shown on the Plans, are bottom slab, wing walls and headwalls.

7. Structural Concrete Culvert End Walls. The limit will be the entire concrete end wall or end walls, as shown on the Plans.

8. Structural Concrete Curb and Sidewalks. The limit will be the entire concrete curb or sidewalk, as shown on the Plans.

9. Concrete Fill. Will be measured for payment by the number of cubic yards of concrete, in place, to the vertical pay limits shown on the Plans. If the Contractor elects to omit forms, then any excavation or concrete placed beyond the pay limits indicated on the Plans shall not be paid for, but shall be at the Contractor's expense.

10. Structural Concrete Parapets. The limit will be the entire concrete portion of the parapets and bridge transition barriers measured longitudinally, from end to end on both sides of the structure, as shown on the Plans.

C. No deduction will be made for the volume of concrete displaced by structural steel, reinforcing steel, pile heads, expansion joint material, drains, chamfers on corners, inset panels of 1-1/2 inches or less in depth, pipes, weep holes and authorized openings for utilities of 1/4 yd^3 or less in volume, when any of these items occur in structural concrete which is to be paid for on a cubic yard basis.

D. When the bottom of foundations for concrete structures is required to be at a definite elevation within rock excavation, as shown on the Plans or otherwise designated, the quantity to be measured will be the number of cubic yards of concrete actually and satisfactorily placed above a plane at one foot below the above specified plan elevation and within the neat lines of the structure as shown on the Plans or on authorized changes in the Plans. If the ledge rock is excavated below the plane at one foot below the plan elevation, without authorization, then this space shall be replaced with concrete of the same composition as required for the structure foundation but will not be measured for payment.

502.19 Basis of Payment

The accepted work done under structural concrete, of the classes and for the types of work required, will be paid for at the Contract unit price per cubic yard, or at the Contract lump sum price, for the respective Contract items involved. Payment for both the unit price and the lump sum price items will be full compensation for furnishing and installing bridge drains, pier nose armor, water stops, expansion joint filler, PVC or plastic tube drains, asphalt roll roofing (roofing felt), asphalt for painting or covering various type of joints, all required sandblasting, bonding, curing and joint sealing and all incidentals necessary to complete the work satisfactorily. No direct payment will be made for concrete admixtures.

No price adjustments will be made to the lump sum bid for the respective items that are bid lump sum, except when quantity changes are directed by the Authority. It will be the responsibility of the Contractor to verify the estimated quantities prior to submitting bid documents.

Payment for structural concrete culvert connection shall include drilling and grouting the dowels into the existing headwall and excavation. Reinforcing will be paid for under Item 503.12, Reinforcing Steel, Fabricated and Delivered, and Item 503.13, Reinforcing Steel, Placing.

Reinforcing steel, railings, stone curbing and any material that may be required for bridge lighting systems, will be measured and paid for separately as provided in the appropriate sections.

Implementation of the Quality Control Requirements and costs associated with acceptance test sampling shall be incidental.

All work required to construct and remove the bulkheads will not be measured separately for payment, but shall be incidental to Item 502.264.

All costs associated with obtaining, testing and evaluating drilled core specimens for dispute resolution will not be measured separately for payment, but shall be incidental to related items.

Payment will be made under:

Pay Item		Pay Unit
502.21	Structural Concrete, Abutments and Retaining Walls	Cubic Yard
502.219	Structural Concrete, Abutments and Retaining Walls	Lump Sum
502.22	Structural Concrete, Abutments and Retaining Walls (placed under water)	Cubic Yard
502.229	Structural Concrete, Abutments and Retaining Walls (placed under water)	Lump Sum
502.23	Structural Concrete Piers	Cubic Yard
502.239	Structural Concrete Piers	Lump Sum
502.24	Structural Concrete (placed under water)	Cubic Yard
502.249	Structural Concrete Piers (placed under water)	Lump Sum
502.25	Structural Concrete Superstructure Slab	Lump Sum
502.26	Structural Concrete Roadway and Sidewalk Slab on Steel Bridges	Lump Sum
502.261	Structural Concrete Roadway and Sidewalk Slab on Concrete Bridges	Lump Sum
502.264	Structural Concrete Parapets	Lump Sum
502.27	Structural Concrete Superstructure T-beam Type	Lump Sum
502.28	Structural Concrete Rigid Frame Structures	Cubic Yard
502.289	Structural Concrete Rigid Frame Structures	Lump Sum
502.29	Structural Concrete Wearing Surface on Bridges	Lump Sum
502.30	Structural Concrete Box Culvert	Lump Sum
502.31	Structural Concrete Approach Slab	Lump Sum
502.32	Structural Concrete Culvert End Wall	Cubic Yard
502.33	Structural Concrete Culvert End Wall	Lump Sum
502.40	Structural Concrete Box Culvert	Cubic Yard
502.41	Structural Concrete Superstructure Slab	Cubic Yard
502.42	Structural Concrete Roadway and Sidewalk Slab on Steel Bridges	Cubic Yard

502.43	Structural Concrete Superstructure T-beam Type	Cubic Yard
502.44	Structural Concrete Wearing Surface on Bridges	Cubic Yard
502.45	Structural Concrete Approach Slab	Cubic Yard
502.46	Structural Concrete Culvert Connection	Cubic Yard
502.48	Low Permeability Concrete	Cubic Yard
502.49	Structural Concrete Curbs and Sidewalks	Lump Sum
502.56	Concrete Fill	Cubic Yard

SUPPLEMENTAL SPECIFICATION

SECTION 518

STRUCTURAL CONCRETE REPAIR

Section 518, Structural Concrete Repairs is deleted in its entirety and replaced with the following:

518.01 Description

This work shall consist of repairing existing structural concrete as shown on the Plans, as described in these Specifications, and/or as directed by the Resident. Repairing structural concrete shall include removal and disposal of deteriorated concrete, cleaning exposed reinforcing steel, cleaning of concrete surfaces in repair areas, application of bonding agent and placing and curing repair material. All work shall be in conformance with applicable provisions of Sections 202, 502, and 503.

The work includes abutment repairs, pier repairs, fascia and overhang repairs, partial and full depth concrete deck repairs, and other repair types 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.

- Pier Repairs include concrete surface repairs on all deteriorated horizontal, vertical and overhead pier surfaces as shown on the Plans or identified by the Resident.

- Abutment seat refacing includes removal and replacement of existing horizontal and vertical surfaces of abutment seats as shown on the Plans, or as identified by the Resident.

- Fascia and overhang repairs are repairs on all deteriorated vertical and overhead fascia and overhang surfaces on the superstructure less than 7.9 inches in depth that are shown on the Plans or identified by the Resident.

- 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.

Upward Facing Surfaces are defined as any concrete surfaces where the slope is less than or equal to 15 percent from the horizontal. Overhead Surfaces are defined as any concrete surfaces

where the slope is overhanging more than 15 percent from plumb. All other surfaces shall be defined as Vertical Surfaces.

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.

The work shall also include providing the Resident safe access to the bridge abutments, wingwalls, pier shafts and pier hammerheads for sounding of the existing concrete; and providing safe access to the bridge fascia and overhangs for sounding of the existing concrete. This work shall occur prior to the start of concrete repairs so the Resident may identify additional areas requiring repair.

518.02 Repair Materials

A patching material from the following list 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. The use of concrete admixtures that accelerate concrete curing are not permitted unless authorized by the Construction Program Manager in writing.

Materials for non-emergency deck patching, and formed vertical and overhead repairs, shall be one of the materials listed below. Rapid-setting high early strength materials are not permitted.

- MTA - AAA modified concrete – transit mixed or mixed on site
- Sikacrete 211: Manufactured by Sika Corporation, 201 Polito Avenue, Lakehurst, NJ 07011
- SikaRepair 222 extended with aggregate: Manufactured by Sika Corporation, 201 Polito Avenue, Lakehurst, NJ 07011
- MasterEmaco S440 Repair Mortar: Manufactured by BASF Corporation, 889 Valley Park Drive, Shakopee, MN 55379
- A propriety patching material approved by the Resident. The approved material shall not be fast setting, and shall be shrinkage compensated, manufactured or extended with stone, with the following published properties:
    - Compressive strength @ 24 hours – less than 3,500 psi
    - Compressive strength @ 28 days – less than 7,500 psi
    - Minimum bond strength @ 28 days – 1,500 psi
    - Minimum flexural Strength @ 28 days – 700 psi

Materials for non-emergency, un-formed vertical and overhead repairs shall be one of the following:

- SikaTop 123 Plus: Manufactured by Sika Corporation, 201 Polito Avenue, Lakehurst, NJ 07011
- SikaRepair 223: Manufactured by Sika Corporation, 201 Polito Avenue, Lakehurst, NJ 07011
- Zero-C Vertical Overhead Mortar: Manufactured by BASF Corporation Systems, 889 Valley Park Drive, Shakopee, MN, 55379.
- Verticoat Supreme: 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.

A bonding material shall be used for bonding fresh concrete or patching material to existing hardened concrete. 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:

a) For repair of Upward Facing Surfaces, the bonding grout shall have Portland cement and fine aggregate proportioned 3 to 1, respectively, by volume. The fine aggregate shall be from the same source as that used in the repair concrete. All material greater than ⅛ inch shall be removed from the fine aggregate. The sand and cement shall be measured separately in equal sized containers. The sand shall be added prior to the cement. Water shall be added during the mixing process a little at a time until sufficient water has been added to result in a workable consistency. A workable consistency is defined as the minimum water necessary to allow flow of most of the grout without segregation of the grout ingredients. Alternately, the Contractor may use a product from the Department's QPL of concrete bonding agents, in accordance with the manufacturer's published recommendations.

b) For repair of Vertical and Overhead Surfaces, the Contractor shall use a product from the Department's QPL of concrete bonding agents, in accordance with the manufacturer's published recommendations.

518.03 Removal of Unsound Concrete

Removal of existing concrete shall be accomplished without damage to the portion of the structure that is to remain. The deteriorated or delaminated concrete shall first be removed from areas designated by the Resident. The initial classification of an area as sound concrete does not prevent its subsequent reclassification upon further inspection. After the initial removal of unsound concrete, the Resident shall inspect the area again to determine whether additional areas of unsound concrete were revealed by removal operations and if additional concrete removal is required in the

areas to be repaired. This process shall continue until additional areas of unsound concrete are not revealed. After the Resident has determined that the deteriorated concrete has been completely and satisfactorily removed, the perimeter of each cavity created by the removal of concrete shall be saw cut to a minimum depth of ⅝ inch, unless a lesser depth is required to avoid reinforcing steel. The saw cut shall be approximately perpendicular to the original surface. Edges of the cavity shall not be feathered.

Unless otherwise approved by the Resident, the equipment used for removal of unsound concrete shall be chipping hammers weighing a maximum of 35 pounds and only chisel point bits will be allowed.

The surface area and depth of removal for concrete repairs shall be subject to the approval of the Resident.

Deteriorated concrete shall be removed to one of the following depths, whichever is greatest:

a. Sound substrate.

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.

c. To a minimum depth of 1 inch behind the top mat of reinforcing steel.

The Contractor shall use great care to avoid damaging the existing reinforcing steel to remain 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.

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, a proposed Temporary Support Plan which will list the type and size of the proposed members, details of construction, load capacity calculations, and a sequence of operations. The Temporary Support Plan shall be developed and stamped by a Professional Engineer licensed in the State of Maine. Temporary structural supports may bear on the adjacent bridge seat area, backwall or ground.

518.04 Reinforcing Steel

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 the bar's circumference. 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. When reinforcing steel is to remain the structure, care shall be taken to prevent damage to the reinforcing steel or its bond to surrounding concrete.

All existing main reinforcing steel which is broken, or has lost 25 percent, or more, of its original cross sectional area, shall be supplemented with new reinforcing steel. The total area of supplemental bars plus existing bars with section loss shall have the same total area as the original bar. Supplementary reinforcing steel shall be lap spliced a minimum length of 30 bar diameters for bars with section loss of up to 75 percent of the original bar area, and per Section 503, Reinforcing Steel, for all other bars. Reinforcing steel shall be wired to the existing steel or, where designated by the Resident, the existing reinforcing steel shall be cut and supplementary reinforcing steel spliced in with tension couplers.

Where approved by the Resident, exposed reinforcement shall be depressed to provide 1.5-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.

518.05 Surface Preparation

The surfaces to receive repair material shall be free of oil, solvent, grease, dirt, loose particles and foreign matter. Cleaning of repair areas shall be performed by sandblasting or other methods approved by the Resident. All surfaces receiving new material are to be sandblasted not more than 36 hours ahead of the placement of the repair material, or as per the bonding agent manufacturer's recommendations. Any sandblasted areas that have been rained on, exposed to high humidity or fog, or contaminated in any other manner shall be sandblasted again before the repair material is applied. All debris from the cleaning operations shall be thoroughly removed from the cleaned surfaces and adjacent areas using compressed, dry, air, prior to the application of repair materials. All air compressor lines used for cleaning of repair areas shall be equipped with effective oil traps.

518.05 Application of Bonding Agent

When bonding grout is used on repair of upward facing surfaces the following shall apply, except that, in the case where concrete patching materials from the Department's QPL are used in the repair areas, the manufacturer's published recommendations regarding application and use of bonding materials shall take precedence. Once a workable consistency has been reached, additional water shall not be added. The grout must be used or discarded within 30 minutes of the time water is added to the mix. The grout shall be applied no greater than ⅛ inch thick with stiff bristled, nylon, street brooms. The Contractor shall prevent the grout from drying by beginning the grout application immediately prior to the concrete placement and limiting the area of grout application ahead of concrete placement. If the grout begins to dry prior to concrete placement, additional grout may be brushed on the area as directed by the Resident. Should the grout become thoroughly dry it shall be removed by sand blasting or other methods as approved by the Resident.

When a bonding agent from the Department's QPL is used, the product shall be applied in accordance with the manufacturer's published recommendations.

518.07 Placing Repair Materials

When concrete is used as the repair material the provisions of Section 502 shall apply. Additionally, concrete shall not be placed when either the ambient air temperature or the existing concrete temperature is below 45 degrees Fahrenheit. When a patching material is used, the Contractor shall follow the manufacturer's published recommendations for mixing and placing the material.

Forms shall be erected to the neat lines of the existing structure and the new concrete placed. For overhead and vertical repair areas, sufficient concrete shall be removed to ensure that air within the area to be patched can effectively escape during the placement of the repair material.

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 and pier repair concrete.

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.

518.08 Curing

Curing of concrete shall conform to the requirements of Section 502. For Overhead and Vertical Surfaces, curing compounds may be used, in accordance with the manufacturer's requirements. Patching materials shall be cured in accordance with the manufacturer's published recommendations.

518.09 Inspection

The Contractor shall make provisions to allow safe access to the work for the Resident in order to inspect the work, facilitate ongoing inspection of the work and to measure the work for payment purposes.

518.10 Method of Measurement

The quantity of Abutment Repairs, Pier Repairs, Fascia and Overhang Repairs, Partial Depth Concrete Deck Repairs and Full Depth Concrete Deck Repairs will be measured by the square foot regardless of depth and shall be computed as the sum of the products of the average length and width of each area repaired.

The quantity of Abutment Seat Refacing shall be measured by the cubic yard complete and in place.

For all other structural concrete repair items not listed above, the repair of structural concrete is divided into repair areas less than 8 inches in depth and repair areas 8 inches in depth or greater. The repair depth shall be considered the average thickness of an individual repair area. The Resident shall make the final determination as to whether the average depth of repair is less than 8 inches, or 8 inches or greater. Where the average depth of repair is less than 8 inches the repair will be measured for payment by the square foot, complete and accepted. Where the average depth of repair is 8 inches or more the repair will be measured for payment by the cubic yard, complete and accepted. For repair areas with depths of 8 inches or greater the quantity will be determined from the theoretical yield of

the design mix, or in the case of transit mixed concrete, by delivery ticket, as directed by the Resident.

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.

Tension couplers will be measured for payment as the number of splices satisfactorily installed and accepted. Payment will be made under Item 503.17, Mechanical/Welded Splices. Couplers required to repair reinforcing steel damaged by the Contractor shall be provided and installed at the Contractor's expense.

Temporary supports for supporting steel girders for concrete repairs will not be paid separately, but shall be incidental to the Repair item.

Removal of all bituminous (tectyl) coating from existing abutments will not be measured separately for payment, but shall be incidental to the related contract items.

Providing safe access for the Resident to sound and inspect existing concrete surfaces will not be measured separately for payment, but shall be incidental to the related contract items.

When required the preparation of a Temporary Support Plan will not be measured for payment separately, but shall be incidental to the related contract items.

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

Abutment Repairs, Pier Repairs, Fascia and Overhang Repairs, Partial Depth Concrete Deck Repairs, and Full Depth Concrete Deck 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.

Abutment Seat Refacing will be paid for at the Contract unit price bid per cubic yard; which price shall include, but not necessarily be limited to, removal and disposal of existing concrete and reinforcing steel to the limits shown; cleaning existing concrete; furnishing and placing new reinforcing steel; furnishing, placing, and removal of forms, staging, and temporary supports where required; placing, curing, and finishing new concrete; and all materials, labor, equipment, tools, and incidentals necessary to complete the work.

All other structural concrete repair pay items will be paid for at the contract unit price as indicated in the Schedule of Items for the respective Contract item involved.

The following will be included in the unit price for the respective concrete items, complete and accepted: Removal of existing concrete; cleaning of existing reinforcing steel to remain in the structure; cleaning of existing concrete surfaces in repair areas; furnishing and installing bonding materials; providing, installing and removal of all formwork; furnishing and placing new concrete or other approved concrete patching materials in areas where existing concrete is removed; curing of concrete or patching materials; disposal of all demolition material and debris.

Payment for any staging, platforms or lifts required by the Contractor to gain access to the work in order to perform the work, or to provide access to the Resident in order to inspect or measure the work, shall be considered incidental to related Contract items unless the Contract provisions specify separate payment for such access devices.

Fabrication, delivery and placing of reinforcing steel, and mechanical couplers if required, will be paid for under separate Contract items.

The payment for each Contract item will also be full compensation for furnishing all materials, labor, equipment, and all other incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
518.10	Abutment Repairs	Square Foot
518.20	Pier Repairs	Square Foot
518.30	Abutment Seat Refacing	Cubic Yard
518.50	Repair of Upward Facing Surfaces- to Reinforcing Steel < 8 inches	Square Foot
518.51	Repair of Upward Facing Surfaces- below Reinforcing Steel < 8 inches	Square Foot
518.52	Repair of Upward Facing Surfaces ≥ 8 inches	Cubic Yard
518.60	Repair of Vertical Surfaces < 8 inches	Square Foot
518.61	Repair of Vertical Surfaces ≥ 8 inches	Cubic Yard
518.70	Repair of Overhead Surfaces < 8 inches	Square Foot
518.71	Repair of Overhead Surfaces ≥ 8 inches	Cubic Yard
518.75	Fascia and Overhang Repairs	Square Foot
518.80	Partial Depth Concrete Deck Repairs	Square Foot
518.81	Full Depth Concrete Deck Repairs	Square Foot

SUPPLEMENTAL SPECIFICATION

SECTION 652

MAINTENANCE OF TRAFFIC

(General)

Section 652 – Maintenance of Traffic is deleted in its entirety and replaced with the following:

652.1 Description

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

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

652.2 Materials

All traffic control devices shall conform to the requirements of Part VI of the latest edition of the MUTCD, and NCHRP 350 guidelines.

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

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

All barricades, cones, drums, and construction signs may be constructed from new or recycled plastic.

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.

652.2.2 Signs

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

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

652.2.3 Flashing Arrow Board

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 96 inches x 48 inches and finished in non-reflective black. The FAP shall be interpretable for a distance not less than 1 mile.

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

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

Primary power source shall be 12 volt solar with a battery back-up to provide continuous operation when failure of the primary power source occurs, up to 30 days with fully charged

batteries. Batteries must be capable of being charged from an onboard 110 volt AC power source and the unit shall be equipped with a cable for this purpose.

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

The 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 7 feet from the roadway to the bottom of the panel.

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

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

652.2.4 Other Devices

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

Cones shall be orange in color, at least 28 inches high, and retro-reflectorized. Retro-reflection shall be provided by a white band of retro-reflective sheeting conforming to Section 719.01, 6 inches wide, no more than 3 to 4 inches from the top of the cone, and a 4 inch wide white band at least 2 inches below the 6 inch band.

Drums shall be of plastic or other yielding material, and shall be approximately 36 inches high and a minimum of 18 inches in diameter. There shall be at least two retro-reflectorized orange and at least two retro-reflectorized white stripes at least 4 inches wide on each drum. Metal drums shall not be used.

Warning lights and battery operated flashing and steady burn lights shall conform to the requirements Section 712.23 - Flashing Lights.

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

Type I barricades shall be 2 feet minimum, 8 feet maximum in length with an 8 inch wide rail mounted 3 feet minimum above the ground. Type II barricades shall be 2 feet in length with two 8 inch wide rails, and the top rail shall be mounted 3 feet minimum above the roadway. Type III barricades shall be 8 feet in length with three 8 inch wide rails, and the top rail shall be mounted 5 feet minimum above the roadway. The cross members of all barricades shall be of ½ or ⅝ inch thick plywood or other lightweight rigid material such as plastic, fiberglass or fiber wood as approved by the Resident. The predominant color for supports and other barricade components shall be white, except that unpainted galvanized metal or aluminum components may be used.

652.2.5 Portable Changeable Message Sign

Portable-Changeable Message Signs (PCMS) will be furnished by the Contractor and shall be Ver-Mac PCMS-1210 or an approved equal. PCMS's shall be located and relocated to locations approved by the Resident within the Project limits for the duration of the Project.

Features to the Ver-Mac PCMS shall include:

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

The Contractor shall complete and/or provide the following:

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

The Contractor shall also:

- Furnish, operate, relocate and maintain the PCMS as approved or requested by the Resident.

- Be responsible for the day to day programming and operation of the PCMS for Project purposes.

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

652.3.1 Responsibility of the Authority

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

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

652.3.2 Responsibility of the Contractor

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

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

652.3.3 Submittal of Traffic Control Plan

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

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

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

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

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

b. Proposed revisions to the construction phasing or sequencing that reasonably minimizes traffic impacts.

c. A written narrative and/or plan explaining how traffic and pedestrians will be moved through the Project Limits, including transitions during the change from one phase of construction to the next, as applicable.

d. Temporary traffic control treatments at all intersections with roads, rail crossings, businesses, parking lots, pedestrian ways, bike paths, trails, residences, garages, farms, and other access points, as applicable.

e. A list of all Contractor or Subcontractor certified flaggers to be used on the Project, together with the number of flaggers which will be used for each type of operation that flagging is needed. If the Contractor is using a flagging Subcontractor, then the name and address of the Subcontractor may be provided instead of a list of flaggers.

f. A procedure for notifying the Resident of the need to change the traffic control plan or the need to remove a lane restriction.

g. A description of any special detours including provisions for constructing, maintaining, signing, and removing the detour or detours, including all temporary bridges and accessory features and complete restoration of the impacted land.

h. The maximum length of requested contiguous lane closure. The Contractor shall not close excessive lengths of traffic lane to avoid moving traffic control devices.

i. The proposed temporary roadway surface conditions and treatments. The Contractor shall provide an adequate roadway surface at all times; taking into account traffic speed, volume, and duration.

j. The coordination of appropriate temporary items (drainage, concrete barriers, barrier end treatments, impact attenuators, and traffic signals) with the TCP.

k. The plan for unexpected nighttime work, the contractor shall provide a list of emergency nighttime lighting equipment and safety personnel available on-site or have the ability to have them on site within an hour of the time of need.

l. The plan for meeting any project specific requirements contained in special provision 105 and/or 107, and/or Section 656

m. The lighting plan if night work is anticipated.

The Authority will review the TCP for completeness and conformity with Contract provisions, the current edition of the MUTCD, and Authority policy and procedures. The Authority will review and provide comments to the Contractor within 14 days of receipt of the TCP. No review or comment by the Authority, or any failure to review or comment, shall operate to absolve the contractor of its responsibility to design and implement the plan in accordance with the Contract, or to shift any responsibility to the Authority. If the TCP is determined by the Authority to be operationally ineffective, the Contractor shall submit modifications of the TCP to the Authority for review, and shall implement these changes at no additional cost to the Contract. Nothing in this Section shall negate the Contractor's obligations set forth in Section 110 - Indemnification, Bonding, and Insurance. The creation and modification of the TCP will be considered incidental to the related 652 items.

652.3.4 General

Prior to starting any work on any part of the project adjacent to or being used by the traveling public, the Contractor shall install the appropriate traffic control devices in accordance with the plans, specifications and the latest edition of Manual of Uniform Traffic Control Devices, Part VI. The Contractor shall continuously maintain the traffic control devices in their proper position, and they shall be kept clean, legible and in good repair throughout the duration of the work. If notified

that the traffic control devices are not in place or not properly maintained, the Contractor may be ordered to immediately suspend work until all deficiencies are corrected.

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

Vehicles parked on the shoulder shall be located so all portions of the vehicle(s) are a minimum of one foot from the traveled way. No operation (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 Drums. These devices shall be installed and maintained at the spacing determined by the MUTCD through the work area.

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

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 the MUTCD.

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

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

Maine Turnpike Traffic Control Requirements

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

General

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

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

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

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

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

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

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

All vehicles used on the Project shall be equipped with amber flashing lights, visible from both front and rear, or by means of a single or multiple, approved type, revolving, flashing or strobe lights mounted so as to be visible 360 degrees. Auxiliary lighting shall have sufficient intensity to be visible at 500 feet in normal daylight and a flash rate between 1Hz and 4Hz. The vehicle flashing system shall be in continuous operation while the vehicle is on any part of the project and positioned

or mounted in such a way to not be obstructed by vehicle mounted or other equipment. Dump trucks and utility trucks shall have a strobe light mounted on each side of the vehicle.

Temporary Mainline Lane Closures

A lane closure is required when a danger to the traveling public may exist.

A lane closure may be required whenever personnel or equipment will be present within four feet of a travel lane.

Dump trucks shall be parked at least six 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 following is a partial list of activities requiring lane closures. Lane closures may be required for other activities as well:

- Milling and Paving Operations
- Bridge work
- Snow fence installation
- Drainage Installation and/or Adjustment
- Clear Zone Improvements
- Pavement Markings Layout and Placement

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 single lane closures are allowed upon approval of 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 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.

Lane closures shall be removed if work requiring the lane closure is not ongoing or approved by the Resident.

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.

Temporary Mainline Shoulder Closures

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.

Equipment Moves

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

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

The maximum time for which traffic may be stopped and held for an equipment move at any single time shall be five (5) minutes. The duration shall be measured as the time between the time

the last car passes the Resident until the time the Resident determines that all travel lanes are clear. The traffic shall only be stopped for the minimum period of time required to complete the approved activity. The Contractor shall reimburse the Authority at a rate of $500 per minute for each minute in excess of the five-minute allowance.

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

Request for Complete Stoppage of Traffic

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

652.3.5 Installation of Traffic Control Devices

All traffic control devices shall be in conformance with NCHRP 350 requirements and installed as per manufactures recommendations.

Portable signs shall be erected on temporary sign supports approved crashworthy devices so that the bottom of the sign is either 1) 12 inches or 2) greater than 5 feet above the traveled way. Post-mounted signs shall be erected so the bottom of the sign is no less than 5 feet above the traveled way, and 7 feet above the traveled way in business, commercial, and residential areas. Post-mounted signs must be erected so that the sign face is in a true vertical position. All signs shall be placed so that they are not obstructed in any manner and immediately modified to ensure proper visibility if obstructed. Signs may be mounted lower or higher to fit the situation when authorized by the Resident. Cones shall be either weighted or nailed. Tires will not be allowed as weights.

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

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

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

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

Drums shall not be weighted on the top. Drain holes shall be provided to prevent water from accumulating in the drums. Drums may be weighted with up to 6 inches of loose dry sand. 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 Contractor shall operate and maintain the flashing arrow board unit and trailer and shall continuously supply fuel and lubrication for dependable service during the life of the contract. The units shall remain in continuous night and day service at locations designated until the Resident designates a new location or discontinuance of service.

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

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

The Contractor is required to cover all existing signs, including regulatory and warning signs, within the Work zone which may conflict with the proposed construction signs. The Contractor is also required to cover all permanent construction signs when they conflict with a daily traffic control setup. The method of covering existing signs must be approved by the Resident. The use of adhesives on the sign face is prohibited.

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. Any existing regulatory speed limit signs within the reduced speed zone shall be covered once the reduced speed signs have been erected.

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

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

The signs shall be covered or removed when not applicable. The covering and uncovering of signs shall be included for payment under Maintenance of Traffic. Signs relating to reduced speed

shall be installed in accordance with the details. The Contractor shall note that signs installed behind concrete barrier in the outside shoulder are required to be clearly visible to all drivers at all times

Lane Closure Installation and Removal Procedure

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

1. The sign package shall be erected starting with the first sign and proceeding to the start of the taper. The sign crew shall erect signs with the vehicle within the outside shoulder;

2. Position the arrow board with the proper arrow at the beginning of the taper; and,

3. When arrow board is in place, continue with the drums/cones to secure the work area.

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

Trucking Plan

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

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

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

652.3.6 Traffic Control

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

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

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

All vehicles used during the installation and removal of traffic control devices, including lane closures, shall be equipped with a vehicle-mounted lighted arrow board acceptable to the Resident. The arrow board shall be capable of displaying a left arrow, right arrow, double arrow, and a light bar.

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.

652.4 Flaggers

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 Authority and administered by an Authority-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 1,000 ft. . 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.

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

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

Flaggers shall be provided as a minimum, a 10 minute break, every 2 hours and a 30 minute or longer lunch period away from the work station. Flaggers may only receive 1 unpaid break per day; all other breaks must be paid. Sufficient certified flaggers shall be available onsite to provide for continuous flagging operations during break periods. If the flaggers are receiving the appropriate breaks, breaker flagger(s) shall be paid starting 2 hours after the work begins and ending 2 hours before the work ends. A maximum of 1 breaker per 6 flaggers will be paid. (1 breaker flagger for 2 to 6 flaggers, 2 breaker flaggers for 7 to 12 flaggers, etc). If a flagger station is manned for 10 hours or more, then ½ hour for lunch will be deducted from billable breaker flagger hours.

652.41 Traffic Officers

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

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

652.5 Warning Lights

Warning lights shall be installed at locations designated by the Resident before any work is done on the portions of roadway being used by traffic. Upon installation, all warning lights shall remain in continuous operation during the life of the project, unless otherwise authorized by the Resident.

When a suitable 120-volt AC power service source is available within 500 feet of the designated warning light location, power operated flashing lights shall be installed. Two alternately flashing lamps shall be mounted approximately 24 inches above the sign, spaced approximately 24

inches apart.

When a suitable 120-volt AC power service source is not available, battery operated flashing lights may be erected. Four flashing lamps shall be mounted approximately 6 inches above the sign, spaced approximately 12 inches apart.

The power service connections shall be installed to the satisfaction of both the power company and the Resident. The Contractor shall make all necessary arrangements for the power service connections and be responsible for all charges incurred thereby, including power charges. The Contractor shall also be responsible for all outstanding bills from the electric power company for preliminary work done by the electric company for the power service connection.

When batteries are required for battery operated flashing lights, they shall be provided and replaced by the Contractor as necessary.

652.5.1 Rumble Strip Crossing

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

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

652.6.1 Daylight Work Times

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

652.6.2 Night work

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

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

The Contractor shall have available portable floodlights for special areas.

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

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

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

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

Night Work lighting requirements:

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

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

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

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

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, with reflective sheeting meeting the material requirements of this Supplemental Specification.

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 or multiple, approved type, revolving, flashing or strobe lights mounted so as to be visible 360 degrees. Auxiliary lighting shall have sufficient intensity to be visible at 500 feet in normal daylight and a flash rate between 1Hz and 4Hz. The vehicle flashing system shall be in continuous operation while the vehicle is on any part of the project and positioned or mounted in such a way to not be obstructed by vehicle mounted or other equipment. Dump trucks and utility trucks shall have a strobe light mounted on each side of the vehicle.

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

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

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

652.6.3 Traffic Coordinator and Personnel

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

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

a. Developing, in conjunction with the Resident and Project superintendent, a traffic control program for the days' work activities which will facilitate traffic in a safe and efficient manner;

b. Insure that all traffic control implements (signs, arrow boards, barrels, etc.) are on-site so the traffic program can be implemented effectively;
c. Insure a safe and effective setup or take-down of all signing implements to least impact the traveling motorist; and,

d. Working knowledge of construction signing/traffic control requirements in conformance with the latest issued Manual on Uniform Traffic Control Devices.

e. The Contractor shall supplement the traffic control plan with a daily plan, which includes schedules for utilizing traffic coordinators and flaggers. This plan shall be submitted daily and agreed upon cooperatively with the Resident.

652.7 Method of Measurement

Signs, signs supplied by the Authority, and panel markers will be measured by the square foot for all signs authorized and installed. Flashing arrow boards, portable-changeable message signs, and flashing and steady burn lights, will be measured by each unit authorized and installed on the project. Barricades and cones will be measured by each unit authorized. Drums will be measured

by each or as a lump sum authorized and installed, as indicated on the plans and specifications. No additional payment will be made for devices that require replacement due to poor condition or inadequate retroreflectivity.

Flaggers traffic officers used during the Contract, for the convenience of the Contractor, will not be measured separately for payment, but shall be incidental to the various pay items.

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

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

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

Warning lights will be measured by the group of lights furnished.

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

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

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

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

652.8 Basis of Payment

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

The accepted quantity of flashing arrow boards, barricades, battery operated flashing and steady burn lights, and cones will be paid for at the contract unit price each for the actual number of

devices authorized, furnished, and installed. Such payment shall be full compensation for all incidentals necessary to install and maintain the respective devices.

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

ORIGINAL CONTRACT AMOUNT		Amount of Penalty Damages per Violation		
From More Than	Up to and Including	1st	2nd	3rd & Subsequent
$0	$1,000,000	$250	$500	$1,250
$1,000,000	$2,000,000	$500	$1,000	$2,500
$2,000,000	$4,000,000	$1,000	$2,000	$5,000
$4,000,000	and more	$2,000	$4,000	$10,000

Failure to correct maintenance of traffic 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.

652.8.1 Maintenance of Traffic Control Devices

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

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

652.8.2 Other Items

The accepted quantities of flagger hours will be paid for at the contract unit price per hour for each flagging station occupied excluding lunch breaks, and for each approved breaker flagger. Overtime hours, as reported on the certified payrolls, will be paid an additional 30% of the bid price

for 652.38. The computation and additional payment for overtime hours will occur during the project close-out process and will be paid as additional hours of 652.38 to the nearest ¼ hour. The contract unit price shall be full compensation for hiring, transporting, equipping, supervising, and the payment of flaggers and all overhead and incidentals necessary to complete the work.

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

The accepted quantities of traffic officer hours will be paid for at the contract unit price per hour for each station occupied, with no additional payment for overtime. This price shall be full compensation for supplying uniformed officers with police cruisers, and all incidentals necessary to complete the work; including transportation, equipment, and supervision.

The accepted quantities of warning lights will be paid for at the contract unit price, per group, complete in place including the necessary power, and remaining in operation during active work of the project or as otherwise directed. Upon completion of the work, the lamps, fixtures, and the framework required to properly mount the lamps shall remain the property of the Contractor.

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

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

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

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

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

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

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

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

The unit price noted in the proposal sheet for the truck mounted attnenuator 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
652.30	Flashing Arrow	Each
652.31	Type I Barricade	Each
652.311	Type II Barricade	Each
652.312	Type III Barricades	Each
652.32	Battery Operated Light	Each
652.33	Drum	Each
652.331	Drum	Lump Sum
652.34	Cone	Each
652.35	Construction Signs	Square Foot
652.351	Construction Signs-Supplied by Authority	Square Foot
652.36	Maintenance of Traffic Control Devices	Calendar Day
652.361	Maintenance of Traffic Control Devices	Lump Sum
652.37	Warning Lights	Group
652.38	Flaggers	Hour
652.381	Traffic Officers	Hour
652.41	Portable-Changeable Message Sign	Each
652.45	Truck Mounted Attenuator	Calendar Day

SUPPLEMENTAL SPECIFICATION

SECTION 656

TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

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

656.01 Description

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

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

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

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

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

Water Pollution Control Requirements

(a) General

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

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

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

(b) Earthwork

If earthwork disturbance is part of the Project scope:

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

Construction Requirements

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

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

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

Spill Prevention Control and Countermeasure (SPCC) Plan

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

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

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

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

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

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

6. Contingency plan if spill should occur.

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

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

Notification of Authority of Hazardous Material Spills

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

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

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

Responsibility for Control and Cleanup of Hazardous Material Spills

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

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

656.02 Temporary Erosion and Sedimentation Control Devices - Materials

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

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

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

   Staples shall be of No. 9 wire.

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

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

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

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

656.03 Temporary Erosion and Sedimentation Control Devices - General

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

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

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

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

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

656.04 Temporary Erosion and Sedimentation Control Devices – Construction Requirements

1. Erosion Control Filter Berm

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

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

2. Temporary Berms

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

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

3. Temporary Slope Drains

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

4. Silt Fence

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

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

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

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

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

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

5. Boom Supported Floating Silt Fence

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

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

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

necessary, to hold the fence securely in place.

6. Temporary Mulch

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

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

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

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

656.05 Temporary Erosion and Sedimentation Control Devices - Maintenance

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

656.06 Temporary Erosion and Sedimentation Control Devices - Removing and Disposing

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

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

656.07 Erosion Control Compliance Officer

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

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

656.08 Inspection and Recordkeeping

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

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

656.09 Method of Measurement

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

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

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

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

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

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

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

Temporary Mulch – See Section 619 Mulch.

656.10 Basis of Payment

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

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

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

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

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

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

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

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

Temporary Mulch – See Section 619 Mulch.

Payment will be made under:

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

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

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PART II SPECIAL PROVISIONS

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MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART II - SPECIAL PROVISIONS

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

General Description of Work

The Project consists of highway and bridge work required to replace the existing one lane Maxwell Road bridge over the Maine Turnpike in the Town of Sabattus, Maine. The work includes clearing, grading, drainage, base, pavement, guardrail, structural concrete, concrete deck, fabrication and erection of steel beams, steel bridge rails, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications.

Plans

The drawings included in these Contract Documents, and referred to as the Plans, show the general character of the work to be done under this Contract. They bear the general title "Maine Turnpike – Contract 2017.03 – Bridge Replacement – Maxwell Road Underpass Mile 90.0". The right is reserved by the Resident to make such minor corrections or alterations in the Plans as he deems necessary without change in the unit prices on the Schedule of Prices of the Proposal.

101.2 Definition

Holidays

The following is added after Memorial Day in the General Provisions:

Independence Day 2017 (Fourth of July)	12:01 p.m. preceding Friday to noon the following Wednesday.

103.4 Notice of Award

The following sentence is added:

The Maine Turnpike Authority Board is scheduled to consider the Contract Award on December 15, 2016.

104.3.8 Wage Rates and Labor Laws

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

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

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

State of Maine
Department of Labor
Bureau of Labor Standards
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 --------2017.03 Bridge Replacement-Maxwell Road Underpass-Mile 90.0

Location of Project --Sabattus, Androscoggin County

2016 Fair Minimum Wage Rates
Heavy & Bridge Androscoggin County

Occupation Title	Minimum Wage	Minimum Benefit	Total	Occupation Title	Minimum Wage	Minimum Benefit	Total
Backhoe Loader Operator	$21.17	$2.92	$24.09	Flagger	$9.00	$0.00	$9.00
Blaster Ordinance Handling & Explosives	$21.00	$2.72	$23.72	Grader/Scraper Operator	$17.50	1.04	$18.54
Boilermaker	$23.30	$1.30	$24.60	Ironworker - Reinforcing	$20.50	$0.00	$20.50
Bricklayer	$22.00	$1.57	$23.57	Ironworker - Structural	$22.00	$4.56	$26.56
Bulldozer Operator	$17.63	$3.24	$20.87	Laborer (incl. Helpers & Tenders)	$14.00	$0.43	$14.43
Carpenter	$20.50	$6.39	$26.89	Laborer - Skilled	$20.00	$4.08	$24.08
Carpenter - Rough	$20.00	$4.94	$24.94	Line Erector-Power/Cable Splicer	$25.12	$5.67	$30.79
Cement Mason/Finisher	$19.71	$4.89	$24.60	Loader Operator-Front End	$17.61	$2.66	$20.27
Communication Equipment Installer	$13.99	$0.36	$14.35	Mechanic - Maintenance	$20.00	$4.80	$24.80
Comm Transmission Erector-Microwave & Cell	$21.00	$4.23	$25.23	Mechanic - Refrigeration	$22.00	$3.54	$25.54
Concrete Pump Operator	$21.00	$8.40	$29.40	Millwright	$24.00	$9.65	$33.65
Crane Operator =>15 Tons	$24.00	$6.21	$30.21	Painter	$17.63	$0.00	$17.63
Crusher Plant Operator	$15.80	$3.76	$19.56	Pile Driver Operator	$20.80	$6.05	$26.85
Diver	$20.00	$0.00	$20.00	Pipe/Steam/Sprinkler Fitter	$22.00	$4.86	$26.86
Driller - Rock	$20.50	$3.32	$23.82	Pipe Layer	$26.00	$11.67	$37.67
Dry-Wall Taper & Finisher	$21.00	$1.46	$22.46	Pump Installer	$25.00	$4.67	$29.67
Earth Auger Operator	$23.16	$5.33	$28.49	Truck Driver - Light	$15.00	$0.99	$15.99
Electrician - Licensed	$26.00	$11.27	$37.27	Truck Driver - Medium	$15.00	$0.10	$15.10
Electrician Helper / Cable Puller (Licensed)	$16.50	$3.47	$19.97	Truck Driver - Heavy	$16.00	$2.87	$18.87
Excavator Operator	$20.00	$4.01	$24.01	Truck Driver - Tractor Trailer	$20.88	$5.71	$26.59
Fence Setter	$15.25	$1.32	$16.57				

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-046-2016

Filing Date: October 20, 2016

Expiration Date: 12-31-2016

A true copy

Attest: Verna Eldridge

Verna Eldridge
Wage & Hour Director
Bureau of Labor Standards

BLS 424HB (R2016)(Heavy & Bridge Androscoggin)

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 --------2017.03 Bridge Replacement-Maxwell Road Underpass-Mile 90.0

Location of Project --Sabattus, Androscoggin County

2016 Fair Minimum Wage Rates
Highway & Earthwork Androscoggin County

Occupation Title	Minimum Wage	Minimum Benefit	Total	Occupation Title	Minimum Wage	Minimum Benefit	Total
Asphalt Raker	$14.50	$0.00	$14.50	Ironworker - Structural	$23.20	$6.20	$29.40
Backhoe Loader Operator	$19.00	$3.64	$22.64	Laborers (Incl.Helpers & Tenders)	$13.80	$0.34	$14.14
Blaster Ordinance Handling & Explosives	$19.75	$2.02	$21.77	Laborer - Skilled	$16.00	$1.04	$17.04
Boom Truck (Truck Crane) Operator	$21.00	$2.85	$23.85	Line Erector - Power/Cable Splicer	$25.88	$5.88	$31.76
Bulldozer Operator	$18.00	$5.10	$23.10	Loader Operator - Front-End	$17.11	$2.30	$19.41
Carpenter	$20.00	$1.63	$21.63	Mechanic- Maintenance	$18.50	$1.64	$20.14
Carpenter - Rough	$18.00	$1.15	$19.15	Mechanic-Refrigeration	$22.00	$3.54	$25.54
Concrete Mixing Plant Operator	$20.00	$4.46	$24.46	Painter	$18.00	$3.00	$21.00
Concrete Pump Operator	$20.00	$0.00	$20.00	Paver Operator	$18.00	$0.35	$18.35
Crane Operator <15 Tons	$18.61	$2.97	$21.58	Pipe layer	$19.33	$2.37	$21.70
Crane Operator =>15 Tons)	$24.50	$6.61	$31.11	Pump Installer	$25.00	$4.67	$29.67
Crusher Plant Operator	$16.50	$4.72	$21.22	Reclaimer Operator	$21.00	$11.34	$32.34
Driller - Rock	$19.25	$4.30	$23.55	Roller Operator-Earth	$11.75	$0.30	$12.05
Dry-Wall Applicator	$21.50	$2.63	$24.13	Roller Operator - Pavement	$17.03	$1.27	$18.30
Earth Auger Operator	$23.00	$0.00	$23.00	Screed/Wheelman	$18.13	$2.27	$20.40
Electrician - Licensed	$26.00	$13.87	$39.87	Sider	$23.00	$1.77	$24.77
Excavator Operator	$18.50	$2.30	$20.80	Stone Mason	$17.80	$0.00	$17.80
Fence Setter	$15.25	$1.32	$16.57	Truck Driver - Light	$13.50	$0.00	$13.50
Flagger	$9.00	$0.00	$9.00	Truck Driver - Medium	$16.00	$0.52	$16.52
Grader/Scraper Operator	$18.00	$1.04	$19.04	Truck Driver - Heavy	$15.00	$1.04	$16.04
Highway Worker/Guardrail Installer	$15.00	$1.16	$16.16	Truck Driver - Tractor Trailer	$16.50	$1.67	$18.17
Hot Top Plant Operator	$23.60	$9.48	$33.08	Truck Driver - Mixer (Cement)	$12.50	$4.01	$16.51

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-147-2016

Filing Date: October 20, 2016

Expiration Date: 12-31-2016

A true copy

Attest: Verna Eldridge

Verna Eldridge
Wage & Hour Director
Bureau of Labor Standards

BLS 424HI (R2016)(Highway/Earthwork Androscoggin)

104.4.6 Utility Coordination

This Subsection is amended by the addition of the following:

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

General

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

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

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

AERIAL UTILITIES

COMMUNICATION:

Fairpoint Communications
139 State Street
Augusta, ME 04330
ATTN: Michael Atwater (207) 626-2012, Cell (207)745-4836

CABLE TELEVISION:

Time Warner Cable
37 Alfred Plourde Parkway,
Lewiston, ME 04240
ATTN: Paul Ouellette (207) 783-9902, Cell (207) 458-8102

ELECTRIC:

Central Maine Power
740 Main Street
Lewiston, ME 04210
ATTN: Tony Martin (207) 753-3108, Cell (207) 242-4056

CENTRAL MAINE POWER (CMP)

Aerial utility lines are located at the Project limits approximately 400' north and south of the Maine Turnpike centerline.

CMP does not anticipate any working days or relocations, new sets, or transfers.

FAIRPOINT COMMUNICATIONS

Aerial utility lines are located within the Project limits along the west side of Maxwell Road north and south of the Maine Turnpike. The existing utility poles and overhead utility lines are shown on the Plans. Fairpoint's utility crosses the Maine Turnpike from Pole #19 on the southwest side of the bridge to Pole #18 on the northwest side of the bridge.

Fairpoint will install one new pole and remove one existing pole at the approximate locations shown on the Plans and cross sections. Fairpoint plans to begin the utility pole installations after the Contractor has cleared and constructed the proposed southwest embankment between Sta. 28+50 and Sta. 28+66 in order for Fairpoint to set their new pole. TWC and Fairpoint will relocate their respective utilities from the existing pole on to the proposed pole and then Fairpoint will remove the existing pole no longer needed.

The contractor shall notify Fairpoint ten (10) working days prior to clearing and embankment construction. Fairpoint will require one (1) week to install the proposed pole, one (1) week to transfer their overhead lines to the new pole (after TWC has completed their transfer) and to remove the old pole.

TIME WARNER CABLE (TWC)

Aerial utility lines are located within the Project limits along the west side of Maxwell Road north and south of the Maine Turnpike. The existing utility poles and overhead utility lines are shown on the Plans. TWC's utility crosses the Maine Turnpike from Pole #19 on the southwest side of the bridge to Pole #18 on the northwest side of the bridge.

After Fairpoint sets the new pole, TWC will transfer their overhead cable to the new pole. TWC requires three (3) weeks' notice and one week to complete their transfer.

104.4.7 Cooperation With Other Contractors

This Subsection is amended by the addition of the following:

Adjacent contracts currently scheduled for the 2016 construction season include:

MTA Contract 2017.01 Paving MM 80.8 to 88.6; Ferry Road Bridge Repairs MM 80.8; and Toll System Upgrades at Exit 86

MTA Contract 2017.06 – Northern Bridge Repairs: Auburn Interchange MM 75.3, River Road MM 79.4 and Goddard Road, MM 79.6

The following Subsection is added:

105.2.4.2 Lead Paint

The Contractor shall note that the existing bridge structure 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 of Lead Based Paint

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

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

Health and Safety Plan

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

Hazardous Waste Management Plan

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

The Hazardous Waste Management Plan shall:

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

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

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

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

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

105.8.2 Permit Requirements

The Project is being constructed under the Maine Department of Environmental Protection (DEP)'s, Natural Resources Protection Act Permit by Rule Regulations Section 11 – State Transportation Facilities, updated June 08, 2012. A copy of the Section 11 – State Transportation Facilities Permit by Rule regulation standards are attached in **Appendix A**.

The Project is being permitted under Section 404 of the Clean Water Act, through the US Army Corps of Engineers Programmatic General Permit, Category 2. The Project is subject to the General Conditions of the Authorization dated October 13, 2015 through October 13, 2020. A copy of the General Permit is attached in Appendix A. A signed copy of the Category 2 Notification Form must be sent to the Army Corps Maine Project Office at least two weeks before work commences.

Final US Army Corps of Engineers Programmatic General Permit authorization is anticipated by December 05, 2016.

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

A Notice of Intent (NOI), accompanied by a preliminary Limit of Disturbance (LOD) plan was submitted by the Authority to the DEP for coverage under the Maine Construction General

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

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

The LOD for this Contract, which were submitted as part of the NOI, has been estimated to be 2.5 acres.

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

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

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

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

107.1 Contract Time and Contract Completion Date

This Subsection is amended by the addition of the following:

All work shall be completed on or before June 15, 2018. The construction of Maxwell Road Bridge shall be substantially complete by November 17, 2017, or seven months after bridge closure date, whichever comes first.

107.1.1 Substantial Completion

This Subsection is amended by the addition of the following:

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

- All bridge work, including curbing, steel bridge rail, snow fence, surface pavement and guardrail installation including attachments complete and available for traffic.
- All concrete barrier has been removed from the Maine Turnpike and all lanes on the Maine Turnpike shall be open to traffic.
- Maxwell Road fully opened to traffic including shoulders, guardrail, surface pavement and signage.
- All disturbed slopes loamed, seeded and mulched, temporary erosion control mix and/or blanket installed where necessary.

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

107.4.6 Prosecution of Work

The following activities shall not begin until the date specified:

- Maxwell Road shall not be closed until on or after February 15, 2017 and the local road detour is in place. Once closed, Maxwell Road may remain closed for no longer than seven months from the first day of closure.
- The long term lane closure and shoulder closure with concrete barrier on the Maine Turnpike for pier demolition and construction may not be in place until on or after March 1, 2017. The duration that the long term lane closure may remain in place is three months.

The following activities must be completed by the date specified:

- Pier construction shall be complete and the long term lane closure and shoulder closure on the Maine Turnpike shall be removed by July 1, 2017.

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

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Existing Superstructure
(Removing Existing Structural Concrete)
(Removing Existing Concrete)
(Removing of Existing Bituminous Pavement)
(Removing Existing Bridge)

202.01 Description

This section is amended by the addition of the following:

Prior to starting any demolition work, the Contractor shall submit a demolition plan to the Resident for approval. The demolition plan shall be stamped by a Professional Engineer licensed in the State of Maine. The demolition plan shall consider the effect of construction equipment, methods of operation, and sequence of work on the capacity and stability of the bridge. The capacity of the structure shall be calculated to demonstrate the proposed work activities will not result in unacceptable overstress in the structure.

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

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

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

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

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

The seventh paragraph is deleted and replaced with the following:

All materials not specified to be retained by the Authority shall become the property of the Contractor and shall be removed from the site at the completion of the Project. The Contractor shall provide the Resident with an affidavit stating the final location of all disposed material and

that the material was disposed of in accordance with the Maine Department of Environmental Protection Solid Waste Regulations.

202.031 Removing Existing Bituminous Pavement and Concrete Wearing Surface from Bridges and Scarifying the Top of Deck.

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

The use of milling equipment to remove existing bituminous pavement is not allowed.

202.08 Basis of Payment

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

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

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

203.01 Description

The following paragraph is added:

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

203.04 General

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

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

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

203.10 Embankment Construction - General

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

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

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

203.16 Winter Construction of Embankments

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

203.18 Method of Measurement

The following paragraphs are added:

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

SPECIAL PROVISION

SECTION 206

STRUCTURAL EXCAVATION

206.02 Construction Methods

The following paragraphs are added:

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

SPECIAL PROVISION

SECTION 403

HOT MIX ASPHALT PAVEMENT

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

Maxwell Road Bridge

Wearing	**12.5mm**	**403.208**	**3”**		**2**	**B,C,E,J,L,N**

Maxwell Road Underpass Approaches

Wearing	**12.5mm**	**403.208**	**1.5”**	**1**	**B,C,E,J,L,N**
Base	**12.5mm**	**403.213**	**2.5”**	**1**	**B,C,E,J,L,N**

COMPLEMENTARY NOTES

A. The required PGAB for this mixture shall be **64E-28.**
B. The required PGAB for this mixture shall be **64-28.**
C. A maximum of 20 percent RAP may be used.
D. RAP may not be used.
E. The Maine DOT will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. The design verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**. (N design) Minimum and Maximum PGAB content shall not apply.
F. The MTA will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 10 to <30 million ESALS for mix placed under this contract. The design verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**. (N design)
G. A material transfer vehicle (MTV) shall be used for the placement of Hot Mix Asphalt wearing surface on all roadways including acceleration and deceleration lanes and all ramps.
H. Joints shall be constructed as the “notched wedge” type in accordance with Subsection 401.17.
I. Joint density will be measured in accordance with Subsection 401.165.
J. Tack coat shall be applied between all layers of pavement at a rate of 0.04 G/SY.
K. PGAB shall conform to the provisions of 403.02 – Polymer Modified PGAB for HMA
L. The contractor shall furnish a quality control technician equipped with an approved densometer to ensure density requirements are met.
M. Hydrated Lime shall be incorporated into the mixture.
N. No vehicular loads shall be permitted on newly completed pavement until adequate stability has been attained and the material has cooled sufficiently to prevent distortion or loss of fines. The newly paved area may be opened to traffic after the internal temperature of the pavement has cooled to 120° F. The Resident will test the internal temperature of the pavement and shall be the sole judge as to the opening to traffic. The period of time

before opening to traffic may be extended at the discretion of the Resident. The lane closure may not be removed until the internal temperature has cooled to 120° F.

SPECIAL PROVISION

SECTION 409

BITUMINOUS TACK COAT

409.02 Bituminous Material

This Subsection is deleted and replaced with the following:

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

409.05 Equipment

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

409.06 Preparation of Surface

The following paragraph is added:

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

409.08 Method of Measurement

The following paragraphs are added:

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

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

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

409.09 Basis of Payment

The following pay items are added:

Pay Item		Pay Unit
409.15	Bituminous Tack Coat – Applied	Gallon

SPECIAL PROVISION

SECTION 502

STRUCTURAL CONCRETE

(Precast Deck Panels)

This specification amends Maine Turnpike Authority Supplemental Specification 502.

502.01 Description

This work shall consist of casting, furnishing, and erecting partial-depth prestressed structural concrete deck panels (hereafter called "precast deck panels") and all related materials as an optional stay-in-place forming system in accordance with the contract plans and specifications.

Precast Deck Panels shall comply with Section 535 – Precast, Prestressed Concrete Superstructure.

Precast deck panels shall be 3.5 inches thick throughout. The panels shall be rectangular in shape having a nominal width between 4'-0" and 8'-0". Panels shall have 0.5" chamfers along all edges. The panels shall be manufactured in conformity with the following tolerances:

Thickness of panel	-1/8", 1/4"
Width of panel	-0", +1/4"
Length of panel	±1/4"
Horizontal alignment (dev. from line	1/4"
Squareness (difference along diagonals)	1/2"
Vertical position of strand group (meas.	+0", -1/8"
Vertical position of individual strands	±1/8"
Horizontal strand position	±1/4"
Strand projection	±1/2"
Bowing	±1/8"
Sweep	±1/8"
Warping (meas. from nearest corner)	1/16"
Threaded jack inserts (long. and transv.)	±1/4"

502.02 Materials

Deformed welded wire fabric for precast deck panels shall conform to the requirements of AASHTO M221 (ASTM A497).

All mild reinforcing steel for precast deck panels, included deformed welded wire fabric, shall be epoxy coated in accordance with Standard Specification 503.

Grout dams shall be continuous foam strips of one color fabricated from rigid high-density extruded polystyrene (XPS) conforming to ASTM C578 Type VII. Non-corrosive threaded inserts, leveling screws and compressible polyethylene foam (1.7 pcf) strips may be used in lieu of rigid grout dams if approved by the Resident. Compressible polyethylene foam shall be white such as "CelluPlank" manufactured by Sealed Air Corporation, or an approved equal.

Adhesive for bonding grout dams to girder flanges shall be "CX-200 Construction Adhesive" manufactured by ChemRex or an approved equal.

502.042 Installation of Precast/Prestressed Deck Panel

The following paragraphs are added:

At a minimum, stud welded shear connectors shall extend to the top of the precast deck panel, and preferably should extend two inches above the top of the precast deck panel.

Prestressing steel for precast deck panels shall be uncoated, low relaxation, seven wire strand conforming to the requirements of AASHTO M203 (ASTM A416). The strand shall be 3/8 inch diameter Grade 270. The initial strand tension shall be 17.2 kips per strand.

If leveling screws are used, temporary bracing shall be installed between the ends of the panels to prevent any transverse movements and hence loss of bearing. The leveling screws shall be completely removed after the grouting operation and the holes filled with a fluid type grout prior to the placement of the cast-in-place topping.

The Contractor shall furnish certified copies of a representative load-elongation curve test report for each size and grade of strand for each lot of 10 tons or fraction thereof. The Contractor shall also furnish a certified mill test report for each heat and coil of wire used in the production of the strand.

502.05 Composition and Proportioning

The following paragraph is added:

Portland Cement concrete for partial depth precast deck panels shall be Class P (f'_c=6,000 psi, f'_{ci}=4,000 psi). The mix design shall be approved by the Resident.

Grout shall conform to the requirements of the amended Master Limits Table. Chemical air-entrainment is not required. Shrinkage-reducing properties shall be developed in the mix through the use of an approved admixture such as "Eclipse" manufactured by W.R. Grace or an approved equal. Expansive type additives are not acceptable.

The Master Limits Table is amended as follows:

MASTER LIMITS TABLE

Class of Concrete	Minimum Compressive Strength at 28 Days	Minimum Cementit. Content	Water Cement Ratio	Slump	Air Content	Maximum Coarse Aggregate Size (703.02)	Notes
	PSI	LB./CY		INCHES	%	INCHES	
Grout	4,000	658	0.38±0.02	7 ± 1	3 ± 1	1/2	1, 2, 3, 4

502.17 Nonconforming Work

The following sentences are added:

Any of the following conditions shall be cause for rejection of precast deck panels:

a) Any cracks transverse or diagonal to the strand pattern and crossing more than one strand with crack widths greater than 0.15 mm.

b) Any crack parallel to a strand and longer than 1/3 of the panel length strand with crack widths greater than 0.15 mm.

c) Cracks shorter than 1/3 of the panel length and occurring at more than 25 percent of the total number of strands in the panel.

d) Voids or honeycombed areas with exposed strand.

Panels with cracks or with damage less severe than the conditions stated above shall be repaired by the Contractor, at his own expense, using procedures approved by the Resident.

502.18 Method of Measurement

The following paragraphs are added:

No separate measurement will be made for Precast Concrete Deck Panels. All work and related materials including, but not necessarily limited to, furnishing and installing deck panels, lifting devices, grout dams, adhesive, leveling screws, inserts, grout, panel reinforcing steel or welded wire fabric, and cast-in-place concrete topping will be incidental to, and included in, Item 502.263, Structural Concrete Roadway and End Posts on Steel Bridges.

If precast concrete deck panels are utilized in the construction, no deducts will be applied to Structural Concrete Roadway and End Posts, Reinforcing Steel, and Protective Shielding for the material not used due to the use of the precast panels.

No separate measurement will be made for longer stud welded shear connectors required with the Precast Concrete Deck Panels. All costs associated with this work shall be incidental to the associated contract items.

SPECIAL PROVISION

SECTION 504

STRUCTURAL STEEL

504.03 Drawings

This Subsection is amended by the addition of the following:

When structural steel erection is to take place over travel ways, the Contractor shall submit a structural steel erection plan stamped by a Professional Engineer licensed in the State of Maine. The erection plan shall include the number and location of crane(s), the weight of the pick, crane capacities, bracing locations and all other pertinent information needed to demonstrate the structural steel can be safely erected and assembled.

504.51 Installation

This Subsection is amended by the addition of the following:

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

504.641 Method of Measurement

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

SPECIAL PROVISION

SECTION 506

SHOP APPLIED PROTECTIVE COATING - STEEL

(Zinc Rich Coating System – Shop Applied)

506.05 Inspection

This section is amended by the addition of the following:

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

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

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

506.11 Materials

This first paragraph is deleted and replaced with the following:

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

506.17 Handling and Storage

This section is amended by the addition of the following:

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

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

SPECIAL PROVISION

SECTION 508

WATERPROOFING MEMBRANE

(Membrane Waterproofing)

508.01 Description

The following paragraph is added:

The work shall also include furnishing and applying an approved membrane waterproofing system to the backs of the backwalls and abutments as shown on the plans.

508.02 Materials

The following paragraph is added:

Membrane Waterproofing for the backs of the curtain walls and abutments shall consist of an adhesive primer, preformed waterproofing membrane sheet and mastic designed to work as one system. The following systems have been pre-approved for use on this project for the backs of the curtain walls and abutments:

1) Jiffy-Seal 140/60 Cold Weather membrane, VOC 100 Primer, 160H Mastic – Manufactured by Protecto Wrap Co.

2) 104-AHT membrane, 740 Primer, 104CM Mastic – Manufactured by Royston Laboratories, Inc.

3) Lo Temp Membrane, Bituthene Primer B2, Bituthene Mastic – Manufactured by W.R. Grace

The following paragraphs are added:

508.055 Installation – Membrane Waterproofing

For the backs of the curtain walls and abutments the concrete surfaces shall have a uniform, fine-textured finish that is free of protrusions prior to application of the Membrane Waterproofing system. All honeycombed areas and surface cavities in new and existing concrete shall be cleaned and filled with approved patching materials. All surfaces to be membraned shall be clean and free of laitance, oil and foreign materials.

Immediately prior to application of the primer, the surface shall be cleaned by brooms and compressed air. The concrete surface shall be inspected and approved by the Resident prior to priming.

The adhesive primer shall be thoroughly mixed before use and applied by roller only and allowed to cure in accordance with the manufacturer's recommendations.

Membrane shall be installed in a shingled pattern so that water is permitted to drain without accumulating against seams. The membrane shall be pressed or rolled into place to assure bond with the primed surface and elimination of air bubbles. Lap joints at the beginning and end of rolls shall be staggered with those of adjacent rolls and shall be sealed in accordance with the manufacturer's recommendation.

Torn or damaged membrane shall be repaired in accordance with manufacturer's recommendations.

508.08 Method of Measurement

The following paragraph is added:

Membrane Waterproofing for the backs of curtain walls and abutments will be measured for payment as one lump sum.

508.09 Basis of Payment

The following paragraphs are added:

Membrane Waterproofing will be paid for at the Contract lump sum price, which shall be payment in full for furnishing all materials, labor and equipment, including cleaning of concrete surfaces and providing a moisture meter, and all incidentals necessary to provide a waterproof barrier on the specified concrete surface that is properly adhered to the concrete substrate. Adhesive primer, preformed waterproofing membrane sheets and mastic provided as part of the membrane waterproofing manufacturer's system shall be included in the lump sum price for Membrane Waterproofing. Cleaning and filling of all honeycombed areas and surface cavities in new and existing concrete surfaces to which membrane is to be applied with approved patching materials shall be included in the lump sum price for Membrane Waterproofing. Damage to new or existing concrete surfaces, resulting from the Contractor's placement or curing operations, or any damage caused by the Contractor's operations shall be repaired at no cost to the Authority.

Payment will be made under:

Pay Item		Pay Unit
508.15	Membrane Waterproofing	Lump Sum

SPECIAL PROVISION

SECTION 511

COFFERDAMS

(Temporary Earth Support Systems)

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

511.01 Description

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

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

511.02 Materials

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

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

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

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

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

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

511.03 Temporary Earth Support System Construction

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

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

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

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

511.04 Pumping

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

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

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

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

511.05 Method of Measurement

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

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

511.06 Basis of Payment

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

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

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

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

Payment will be made under:

Pay Item		Pay Unit
511.091	Temporary Earth Support Systems	Lump Sum

SPECIAL PROVISION

SECTION 515

PROTECTIVE COATING FOR CONCRETE SURFACES

(Clear Concrete Protective Coating)

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

515.01 Description

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

515.02 Materials

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

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

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

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

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

515.021 Substitute Materials

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

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

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

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

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

515.03 Surface Preparation

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

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

515.04 Application

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

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

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

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

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

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

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

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

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

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

515.05 Method of Measurement

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

515.06 Basis of Payment

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

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 520

EXPANSION DEVICES – NON-MODULAR

(Asphaltic Plug Joint)

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

520.01 Description

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

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.

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

520.02 Submittals

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

(a) Complete and detailed Shop Drawings of asphaltic plug joint system. Shop Drawing shall include information covering materials, their properties, installation procedures, storage and handling requirements, and 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.

520.03 Materials

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

The following systems are acceptable for use as asphaltic plug joints:

Thorma-Joint	Polyjoint	Koch BJS
Linear Dynamics, Inc. 400 Lannidex Plaza Parsipanny, NJ 07054	A.H. Harris 321 Ellis Street New Britain, CT 06050	Koch Materials Company P.O. Box 510 Stroud, OK 74079

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

(a) Asphaltic Binder:

Binder shall meet or exceed requirements of AASHTO M301 (ASTM D3405) and consist of hot applied, thermoplastic polymeric modified asphalt with the following properties when tested in accordance with the following ASTM methods:

PROPERTY	REQUIREMENT	TEST METHOD
Softening Point, °F	180 min.	ASTM D36
Tensile Adhesion @ 77°F, %	800 min.	ASTM D3583
Ductility @ 77°F, inch	16 min.	ASTM D113
Penetration, 0.1 mm 77°F, 150 g, 5 s 0°F, 200 g, 60 s	 90 max. 10 max.	ASTM D3407
Flow 5 hrs @ 140°F, mm	3.0 max.	ASTM D3407
Bond @ -20°F	pass 3 cycles	ASTM D3407
Resilience @ 77°F, %	60 min.	ASTM D3407
Asphalt Compatibility @ 140°F	pass	ASTM D3407
Recommended Pouring Temperature, °F	380 to 390	
Safe Heating Temperature, °F	410	

(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 either Plate Steel or Aluminum Flashing as specified on the plans.

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

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

(d) Centering Nail:

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.

520.04 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. The area shall be free of any dirt, dust, moisture, petroleum or solvents that might contaminate the joint materials or reduce the bond of the joint system to the substrate or vertical faces. The use of compressed air and heat may be required to dry the area before installing the joint system.

The asphalt pavement layers shall be removed to the required dimensions shown on the plans. The asphalt pavement shall be sawcut to a depth that will not damage the waterproofing membrane, but permit the removal of the asphalt pavement layer. The pavement layer shall be removed in a manner that will not damage the waterproofing membrane. Bond breakers such as interlayers and fabrics, or temporary header(s) may be used as required to protect the waterproofing membrane from damage. The method of attaching any temporary header(s) to the concrete deck shall be approved by the Resident. The use of a temporary header shall not be allowed if it will need to be anchored into a precast prestressed concrete member. Should a concrete leveling course be required before installing the bridging plates, and the membrane layer is removed in the process, it shall be replaced before the asphaltic plug joint system is installed. Vertical surfaces of the asphalt pavement layers shall be cleaned to remove all water, dust, or other contaminates.

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.

If called for on the plans the bridging plates, whether fabricated from steel plate or aluminum flashing, shall be placed from curb to curb on the roadway portion of expansion joints. Plates shall be centered over joint openings. Centering nails shall be placed in pre-drilled holes and hammered in to secure plates.

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

Aggregate shall be heated in a rotating drum mixer to a minimum of 350°F or as recommended by the Engineer. The thermoplastic polymeric modified asphalt Binder shall be added to the mixer to pre-coat 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 to the manufacturer's instructions.

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

520.05 Method of Measurement

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 pay item.

520.06 Basis of Payment

Asphaltic Plug Joint 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 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 and sidewalks will not be measured separately for payment, but shall be incidental to the Asphaltic Plug Joint pay item.

Payment will be made under:

Pay Item		Pay Unit
520.23	Asphaltic Plug Joint	Linear Foot

SPECIAL PROVISION

SECTION 524

TEMPORARY STRUCTURAL SUPPORTS

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

524.01 Description

The following paragraph is added:

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

The following Subsections are added:

524.031 Protective Shielding Design

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

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

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

524.041 Protective Shielding Erection and Removal

No portion of the protective shielding installed over a roadway shall project below a plane connecting the bottoms of the bottom flanges of the steel stringers or concrete I-girders. During

demolition operations, the protective shielding shall be covered with sheet plastic made tight at edges and laps to prevent water used in the sawcutting operation from falling onto the facilities under the bridge.

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

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

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

524.28 Method of Measurement

The following paragraph is added:

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

524.29 Basis of Payment

The following paragraphs are added:

Protective Shielding will be paid for at the Contract bid price per square yard and shall include all design, materials, transportation and stacking, labor (to install, remove and stack as needed), tools and equipment necessary to perform the work as described above or as approved by the Resident. The measurement shall include one sequence of placement, removal, and on-site storage (if applicable for intended reuse) of Protective Shielding. Where bridge and girder construction dictates that Protective Shielding is to be installed in the same location at a later date, then the quantity of Protective Shielding shall be increased accordingly to reflect the total work, and shall be tabulated on the drawings. Therefore, the calculated quantity of Protective Shielding will be the summation of each sequence noted above (placement, removal, and on-site storage). The Contractor shall note that additional timber material may be required to accommodate differing girder spacing or differing overhang dimensions.

Payment will be made under:

Pay Item		Pay Unit
524.40	Protective Shielding - Steel Girders	Square Yard
524.41	Protective Shielding - Prestressed Concrete I-Girders	Square Yard
524.42	Protective Shielding - Prestressed Structural Concrete Slabs	Square Yard

SPECIAL PROVISION

SECTION 526

CONCRETE BARRIER

(Temporary Concrete Barrier Type I - Supplied by Authority)

526.01 Description

The following paragraphs are added:

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

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

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

Maintenance Area	Linear Feet of Barrier
Auburn Maintenance Area Mile 76.9 Northbound	500

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

526.02 Materials

The following paragraphs are added:

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

526.021 Acceptance

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

526.03 Construction Requirements

The following paragraphs are added:

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

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

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

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

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

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

Retro-Reflective Delineators shall be mounted as follows:

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

526.04 Method of Measurement

The following paragraphs are added:

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

The loading, transporting, setting, resetting, removing, transporting, sorting and stacking of the barrier, the furnishing, installation and maintenance of the barrier delineators, and furnishing and installing connector pins 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 local roadways with posted speeds of 40 MPH or less. The Contractor shall provide the Resident with documentation of the proposed work zone crash cushion's NCHRP Report 350 Crash Test Results prior to installation at the jobsite.

527.03 Construction Requirements

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

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

527.04 Method of Measurement

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

527.05 Basis of Payment

Payment will be made under:

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

SPECIAL PROVISION

SECTION 603

PIPE CULVERTS AND STORM DRAINS

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

603.01 Description

The following paragraphs are added:

This work shall also consist of furnishing and installing Class III or Class V reinforced concrete pipe at the locations as shown on the Plans or as approved by the Resident. These pipes shall meet the requirements of Subsection 706.02.

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

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

603.02 Materials

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

603.11 Method of Measurement

The following paragraph is added:

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

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

603.12 Basis of Payment

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

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 603

PIPE CULVERTS AND STORM DRAINS

(12” HDPE Pipe Liner)

The following paragraphs are added:

603.01 Description

This work shall also consist of furnishing and installing 12” smooth HDPE pipe inside of existing 18” corrugated metal pipes as shown on the plans or as approved by the Resident.

603.021 HDPE Pipe

HDPE pipe shall have an SDR rating of 13.5 and meet all requirements of an Option III pipe. Pipe shall be joined by the heat/butt-fusion method. All fusion work shall be performed by manufacturer-certified personnel only. Pipe shall conform to ASTM PE3408, 1248, 3350, and AWWA C906, and have a cell classification of 345434C.

603.0312 Cleaning Existing Culvert

Existing culverts shall be cleaned of all debris, soil, roots, and any other material to allow for the installation of the HDPE liner. Minimum requirements for culvert cleaner are as required in Section 631.

603.0313 Testing

Prior to ordering the 12” HDPE pipe liner, the Contractor shall clean then pull a mandrel through the existing 18” pipe by hand to ensure the existing pipe hasn’t shifted or settled beyond tolerances allowing the 12” pipe to line the existing pipe. The mandrel shall be certified by the Authority prior to use.

The mandrel shall meet the requirements of Subsection 603.0311 of the Standard Specifications.

603.0314 Outlet

For the last six feet of both ends of the existing 18-inch culverts, the annular space between the 12 inch liner and the 18 inch pipe shall be grouted with a concrete flowable fill or with another acceptable material as approved by the Resident. The bedding for the 12 inch HDPE liner extension, immediately outside the 18 inch culverts shall be thoroughly prepared and compacted to prevent any deformation of the 12 in HDPE.

603.0315 Submittals

Shop and working drawing submittal shall be made within 30 days of the award of Contract and shall include overall installation methods and schedule, launching and receiving pit plans and details, stormwater control plan, waste plan from cleaning, pipe joint methods and details, and end seal plans.

603.11 Method of Measurement

The following paragraph is added:

12 inch HDPE Pipe Liner will be measured by the length in linear feet along the invert, installed as directed, complete in place and accepted.

603.12 Basis of Payment

The accepted quantities of 12 inch HDPE Pipe Liner will be paid for at the contract unit price per linear foot, complete in place.

Cleaning the existing culvert, testing the existing culvert with a mandrel and grouting the ends of the existing culvert shall be incidental to the 12 inch HDPE Pipe Liner item.

Payment will be made under:

Pay Item		Pay Unit
603.152	12 inch HDPE Pipe Liner	Linear Foot

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(W-Beam to 3-Bar Bridge Rail Transition)

606.01 Description

The section is amended by the addition of the following:

This work shall consist of furnishing and erecting W-beam to 3-bar bridge rail transitions at the required locations in accordance with the Specifications and in reasonably close conformity with the lines and grades shown on the Plans.

W-beam to 3-bar bridge rail transitions shall consist of galvanized thrie beam transition sections, nested thrie beam, wood or composite offset blocks, driven steel posts, connection hardware, terminal connectors, and other incidentals required to complete the work.

606.08 Method of Measurement

The section is amended by the addition of the following:

W-beam to 3-bar bridge rail transitions will be measured by each unit satisfactorily fabricated, delivered and erected.

Curbing will not be considered for payment as part of the W-beam to 3-bar bridge rail transitions, but will be measured for payment separately under Specification 609.

606.09 Basis of Payment

The section is amended by the addition of the following:

The accepted quantity of W-beam to 3-bar bridge rail transitions will be paid for at the Contract unit price for each unit complete in place and shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work. Payment shall be full compensation for furnishing and installing thrie beam transition sections, nested thrie beam, wood or composite offset blocks, driven posts, terminal connectors, connection plates, all hardware, 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
606.1728	W-Beam to 3-Bar Bridge Rail Transition	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Guardrail Type 3c- Single Rail, 7 foot posts)
(Guardrail Type 3d- Single Rail, 7 foot posts)

606.01 Description

The section is amended by the addition of the following:

This work shall consist of furnishing and erecting Guardrail Type 3c and 3d – Single Rail, 7 Foot Posts at the required locations in accordance with the Specifications and in reasonably close conformity with the lines and grades shown on the Plans.

606.02 Materials

The section is amended by the addition of the following:

Steel posts shall be 7 feet long.

606.08 Method of Measurement

The section is amended by the addition of the following:

Guardrail Type 3c and 3d – Single Rail, 7 Foot Posts will be paid for at the contract unit price per linear foot of rail satisfactorily installed and accepted.

606.09 Basis of Payment

The section is amended by the addition of the following:

The accepted quantity of Guardrail Type 3c and 3d – Single Rail, 7 Foot Posts will be paid for at the contract unit price per linear foot of rail and shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
606.233	Guardrail Type 3c – Single Rail, 7 Foot Posts	Linear Foot
606.244	Guardrail Type 3d– Single Rail, 7 Foot Posts	Linear Foot

SPECIAL PROVISION

SECTION 606

GUARDRAIL

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

606.01 Description

The following paragraphs are added:

This work shall also consist of furnishing and installing new delineator posts and/or removing and resetting and/or removing and stacking existing delineator posts within the Contract limits at the Auburn Maintenance Facility at Mile Marker 76.9 Northbound. The existing reflectorized delineator panels shall be removed and replaced with new reflectorized delineator panels as required by the Resident.

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

Outside Shoulder:

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

Median:

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

Other Locations:

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

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

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

606.02 Materials

The following paragraphs are added:

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

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

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

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

606.03 Posts

The following paragraphs are added:

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

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

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

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

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

606.08 Method of Measurement

The following paragraphs are added:

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

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

606.09 Basis of Payment

The following sentences are added:

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

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

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

Payment will be made under:

Pay Item		Pay Unit
606.3561	Delineator Post - Remove and Reset	Each
606.3562	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)
(Guardrail - Remove and Stack)
(Guardrail Adjust – Single Rail)
(Guardrail Adjust – Double Rail)

606.01 Description

The following paragraphs are added:

This work shall also 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. 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 determine if the rail is to be adjusted.

This work shall also consist of removing, stockpiling and stacking of existing single and double guardrail elements, component parts and hardware suitable for replacement as approved by the Resident. At the completion of the Contract, any unused guardrail elements, posts, component parts and hardware suitable for reuse shall remain the property of the Authority. Any guardrail elements, posts, component parts and hardware unsuitable for reuse shall become property of the Contractor.

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

Guardrail materials may be temporarily stockpiled at the Auburn Maintenance Facility at MM 76.9 Northbound.

This work shall consist of removing, disposing of existing guardrail elements, component parts and hardware, as directed by the Resident. 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.

606.02 Materials

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

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

The following Subsection is added:

606.021 General

All existing guardrail to be raised or lowered shall be completed prior to new guardrail or end treatments being attached.

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 1/2 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 adjusted for lean where needed. All posts shall be plumb after adjusting for lean.

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 adjusted or reset post shall be raked and compacted with a minimum 8 pound hand tamper or an approved device. Holes created due to adjusting or resetting a post shall be filled with a similar surrounding material and compacted.

606.08 Method of Measurement

The following paragraphs are added:

Adjusting of both single and double rail guardrail shall be measured by the linear foot of Guardrail adjusted and accepted.

Raking and compacting the earth around each reset post with a minimum 8 pound hand tamper or an approved device, and infilling and compacting holes created due to resetting posts with

a similar surrounding material will not be paid separately, but shall be incidental to the Guardrail - Remove, Modify and Reset pay items or Guardrail - Adjust pay items.

Guardrail Remove and Stack will be measured on a linear foot basis of guardrail satisfactorily removed and stockpiled whether single rail or double rail. Single and double twisted end sections will be measured for payment on a linear foot basis as 25 feet of guardrail removed.

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

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

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

606.09 Basis of Payment

The following paragraphs are added:

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. Guardrail Adjust will not be measured for payment until all compaction has been completed.

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 stacking 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.

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
606.369	Guardrail - Remove and Stack	Linear Foot
606.3621	Guardrail Adjust, Single Rail	Linear Foot
606.3622	Guardrail Adjust, Double Rail	Linear Foot

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Guardrail – Tangent Guardrail Terminal – Energy Absorbing)

606.01 Description

The following paragraph is added:

This work shall consist of furnishing and installing energy absorbing tangent guardrail terminals for W-beam guardrail in accordance with these specifications at locations shown on the Plans or as directed by the Resident.

606.02 Materials

The following paragraph is added:

The terminal shall be in compliance with NCHRP 350 Test Level 3 and be one that is currently listed on MaineDOT's Qualified Products List of Terminals for W-Beam Guardrail Systems – Tangent Terminals (Energy Absorbing).

The following subsection is added:

606.055 Installation

A set of installation drawings shall be submitted to the Resident for the system installed. The system shall be installed according to the manufacturer's installation drawings and recommendations.

606.08 Method of Measurement

The following paragraphs are added:

Terminals shall be measured by each unit complete, in place and accepted.

606.09 Basis of Payment

The following paragraphs are added:

The accepted quantity of terminals shall be paid for at the Contract unit price bid. Such payment shall be full compensation for labor, materials, equipment and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
606.81	Tangent Guardrail Terminal – Energy Absorbing	Each

SPECIAL PROVISION

SECTION 607

FENCES

(Snow Fence)

607.01 Description

The following paragraph is added:

The work shall include the installation of snow fence on the bridge to the limits shown on the plans.

607.02 Materials

The following paragraph is added:

Snow fence material shall consist of galvanized chain link fence at a height shown on the Plans. Posts shall be galvanized metal and spaced as 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 tie wires, bars, and tension members 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.

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
607.431	Snow Fence	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 619

MULCH

(Mulch – Plan Quantity)
(Temporary Mulch)

619.01 Description

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

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

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

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

619.03 General

The first paragraph is deleted and replaced with the following:

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

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

610.06 Method of Measurement

The following sentence is added:

Temporary Mulch will be paid for by the lump sum.

656.10 Basis of Payment

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

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

627.01 Description

The following sentence is added:

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

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

627.02 Materials

The following paragraph is added:

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

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

627.04 General

The following paragraphs are added:

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

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

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

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

627.06 Application

The following paragraphs are added:

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

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

627.08 Removing Lines and Markings

The following sentence is added:

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

627.09 Method of Measurement

The following paragraph is added:

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

627.10 Basis of Payment

The following paragraphs are added:

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

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

645.07 Demounting and Reinstalling Existing Signs and Poles

The first paragraph is deleted and replaced by the following:

Signs and poles designated to be demounted and not designated to be reinstalled, except those designated to be demounted by others, shall become the property of the Contractor.

645.09 Basis of Payment

The first paragraph is deleted and replaced by the following:

The accepted demounted signs and demounted poles will be paid for at the contract unit price each for the respective item specified. Such price will be full compensation for disposing of signs and poles not to be reinstalled, and all other incidentals necessary to complete the work.

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

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

645.01 Description

The following paragraph is added:

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

624.022 Sign Layout Drawings

This subsection is deleted and replaced with the following:

645.022 Authority Supplied Signs

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

645.08 Method of Measurement

This subsection is deleted and replaced with the following:

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

645.09 Basis of Payment

This subsection is deleted and replaced with the following:

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Specific Project Maintenance of Traffic Requirements)

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

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

Maxwell Road Traffic Control Requirements

Two-lane traffic shall be maintained on Maxwell Road at all times in accordance with the details shown on the Plans with the exception of the complete Maxwell Road closure. The Contractor shall coordinate directly with the Authority for acceptable road closure dates as outlined in Section 107.4.6. The contractor shall notify the Resident/Authority two weeks prior to the closure. The Resident/Inspector shall notify the Town of Sabattus.

Maine Turnpike Traffic Control Requirements

Bridge work directly over traffic or within six feet of a travel lane as measured from the painted pavement marking line or traffic control device will require a lane closure. This work includes but is not limited to the following:

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

When approved by the Resident, Items 3, 6 and 8 may be performed over traffic if a temporary floor is provided between the bottom flanges of the beams.

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

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

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

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART III – APPENDICES

APPENDIX A

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.

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.

(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

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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)*

DEPARTMENT OF THE ARMY
GENERAL PERMIT FOR
THE STATE OF MAINE

The New England District of the U.S. Army Corps of Engineers (Corps) hereby issues a General Permit (GP) for activities subject to Corps jurisdiction in waters of the U.S. within the boundaries of the State of Maine. This GP is issued in accordance with Corps regulations at 33 CFR 320 - 332 [see 33 CFR 325.2(e)(2)]. This GP authorizes activity-specific categories of work that are similar in nature and cause no more than minimal individual and cumulative adverse environmental impacts. Refer to Page 2 for the list of activities and Appendix A for activity specific conditions of eligibility in inland and tidal waters.

I. GENERAL CRITERIA

1. 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 – 20), and Appendix A - Definition of Categories.

2. Under this GP, projects may qualify for the following:
   - Category 1: Category 1 Self -Verification Notification Form is required (SVNF – see Appendix B).
   - Category 2: Application to and written approval from the Corps is required (Pre-Construction Notification (PCN)). No work may proceed until written approval from the Corps is 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 activities eligible 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.

3. Prospective permittees need to read:
   a. Section II to determine if the activity requires Corps authorization.
   b. Sections III and IV to determine if the activity may be eligible for authorization under this GP, specifically whether it is eligible for Self-Verification (SV) or whether Pre-Construction Notification (PCN) is required.

4. Permittees must ensure compliance with all applicable General Conditions in Section IV. The Corps will consider unauthorized any activity requiring Corps authorization if that activity is under construction or completed and does not comply with all of the terms and conditions.

5. Project proponents are encouraged to contact the Corps with questions at any time. Pre-application meetings (see 33 CFR 325.1(b)), whether arranged by the Corps or requested by permit applicants, are encouraged to facilitate the review of projects. Pre-application meetings and/or site visits can help streamline the permit process by alerting the applicant to potentially time-consuming concerns that are likely to arise during the evaluation of their project (e.g., avoidance, minimization and compensatory mitigation requirements, historic properties, endangered species, essential fish habitat, and dredging contaminated sediments).

II. CORPS JURISDICTION/ACTIVITIES COVERED

1. Permits are required from the Corps of Engineers for the following work:

a. The construction of any structure in, over or under any navigable water of the United States (U.S.) [1], the excavating or dredging from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters. The Corps regulates these activities under Section 10 of the Rivers and Harbors Act of 1899. See 33 CFR 322;

b. The discharge of dredged or fill material and certain discharges associated with excavation into waters of the U.S. (e.g. sidecasting). The Corps regulates these activities under Section 404 of the Clean Water Act (CWA). See 33 CFR 323; and

c. The transportation of dredged material for the purpose of disposal in the ocean. The Corps regulates these activities under Section 103 of the Marine Protection, Research and Sanctuaries Act. See 33 CFR 324.

2. Related laws:

33 CFR 320.3 includes a list of related laws, including: Section 401 of the CWA, Section 402 of the CWA, Section 307(c) of the Coastal Zone Management (CZM) Act of 1972, The National Historic Preservation Act of 1966, the Endangered Species Act, the Fish and Wildlife Act of 1956, the Marine Mammal Protection Act of 1972, Magnuson-Stevens Act, and Section 7(a) of the Wild and Scenic Rivers Act.

3. An activity listed below may be authorized by this GP only if that activity and the permittee satisfy all of the GP's terms and conditions. Any activity not specifically listed below may still be eligible for the GP; applicants are advised to contact the Corps for a specific eligibility determination. Category 1 and Category 2 eligibility criteria for each activity in both Inland and Tidal waters can be found in Appendix A.

1. Repair, Replacement, Expansion, and Maintenance of Authorized Structures and Fills
2. Moorings
3. Structures, Floats and Lifts
4. Aids to Navigation, and Temporary Recreational Structures
5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation
6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges
7. Bank and Shoreline Stabilization
8. Residential, Commercial, Industrial, and Institutional Developments, and Recreational Facilities
9. Utility Line Activities
10. Linear Transportation Projects
11. Mining Activities
12. Boat Ramps and Marine Railways
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects
14. Reshaping Existing Drainage Ditches and Mosquito Management
15. Oil Spill and Hazardous Material Cleanup
16. Cleanup of Hazardous and Toxic Waste
17. Scientific Measurement Devices
18. Survey Activities
19. Agricultural Activities
20. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices
21. Habitat Restoration, Establishment and Enhancement Activities
22. Previously Authorized Activities
23. Stream & Wetland Crossings
24. Aquaculture

Note: Multiple activities may be authorized in the same GP, e.g. a recreational pier (#3) with an associated mooring (#2) or a windpower facility (#13) with an associated transmission line (#9).

[1] Defined in Appendix F, Definitions and at 33 CFR 328.

III. PROCEDURES

1. State Approvals. Applicants are responsible for applying for and obtaining any of the required state or local approvals. 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 (PBR) and general permit authorizations; Site Location of Development Act permit; Maine Waterway Development and Conservation Act permit; and Maine Hazardous Waste, Septage, and Solid Waste Management Act license.
- Maine Department of Conservation, Agriculture & Forestry: Land Use Planning Commission (LUPC) permit.
- Maine Department of Marine Resources: Aquaculture Leases.
- Maine Department of Conservation, Bureau of Parks and Lands, Submerged Lands: Submerged Lands Lease.

NOTE: This GP may also be used to authorize projects that are not regulated by the State of Maine (e.g., certain seasonal floats or moorings).

2. How to Obtain/Apply for Authorization.

a. Category 1 (Self-Verification): Self-Verification Notification Form (SVNF) required. The SVNF is required for all SV eligible work in Maine unless otherwise stated in Appendix A. Activities that are eligible for SV are authorized under this GP and may commence without written verification from the Corps provided the prospective permittee has:

i. Confirmed that the activity will meet the terms and conditions of Category 1. Consultation with the Corps and/or other relevant federal and state agencies may be necessary to ensure compliance with the applicable general conditions (GCs) and related federal laws such as the National Historic Preservation Act (see GC 6), the Endangered Species Act (GC 8) and the Wild and Scenic Rivers Act (GC 9). Prospective permittees are encouraged to contact the Corps with SV eligibility questions. Activities not meeting the SV criteria must submit a PCN to the Corps.

ii. Submitted the SVNF (see GC 27 and Appendix B) to the Corps. **NOTE: A copy of a state permit application form may be an acceptable surrogate for the SVNF. Whichever form chosen needs to include a location map, plans, and an Official Species List for federally listed threatened or endangered species (Reference Appendix D).**

b. Category 2 (Pre-Construction Notification (PCN)): Application to and written verification from the Corps is required before work can proceed. For activities that do not qualify for SV or where otherwise required by the terms of the GP, the permittee must submit a PCN and obtain a written permit before starting work in Corps jurisdiction.

i. The Corps will coordinate review of all activities requiring PCN with federal and state agencies and federally recognized tribes, as appropriate. To be eligible and subsequently authorized, an activity must result in no more than minimal individual and cumulative effects on the aquatic environment as determined by the Corps in accordance with the criteria listed within this GP. This may require project modifications involving avoidance, minimization, or compensatory mitigation for unavoidable impacts to ensure that the net adverse effects of a project are no more than minimal.

ii. The Corps will attempt to issue a written eligibility determination within the state's review period. Regardless, work eligible for Category 2 may not proceed before Corps written approval is received.

c. All applicants for Category 2 projects must:

i. Apply directly to the Corps using the state application form or the Corps application form (ENG Form 4345[2]), and apply directly to the state (DEP, LUPC, BPL or DMR) as applicable using the appropriate state form, if the work is regulated by the Corps and the state; or

ii. Apply directly to the Corps using the Corps application form (ENG Form 4345[2]) if the work is regulated by the Corps but not the state (DEP, LUPC, BPL or DMR).

iii. Provide application information (see "Information Typically Required" in Appendix C) to help ensure the application is complete and to speed project review.

iv. Obtain an Official Species List of federally threatened or endangered species in the project area (GC 8).

v. Submit a copy of their application materials to the Maine Historic Preservation Commission (MHPC) *and* all five Indian tribes listed at Appendix E, at the same time, or before, they apply to 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 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).

d. Work that is not regulated by the State of Maine, but is subject to Corps jurisdiction, may still be eligible for authorization under this GP.

e. Emergency Situations: 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." Emergency work is subject to the same terms and conditions of this GP as non-emergency work, and similarly, must qualify for authorization under the GP; otherwise an IP is required. The Corps will work with all applicable agencies to expedite verification according to established procedures in emergency situations.

3. Individual Permits. Projects that are not authorized by this GP require an Individual Permit (IP) (33 CFR 325.5) and proponents must submit an application directly to the Corps. This GP does not affect the Corps IP review process or activities exempt from Corps regulation. For general information and application form, see the Corps website or contact the Corps (see Appendix E). The Corps encourages applicants to apply concurrently for a Corps IP and applicable state permits.

The Corps retains discretionary authority on a case-by-case basis to elevate a GP eligible project to an IP based on concerns for the aquatic environment or for any other factor of the public interest [33 CFR 320.4(a)]. Whenever the Corps notifies an applicant that an IP is required, no work in Corps jurisdiction may be conducted until the Corps issues the required authorization in writing indicating that work may proceed.

4. Enforcement/Non-Compliance. Work performed without the required Corps of Engineers permits is subject to administrative, civil, and criminal penalties. The Corps will evaluate unauthorized activities for enforcement action under 33 CFR 326.

The Corps will consider unauthorized any activity requiring Corps authorization if that activity is under construction or completed and does not comply with all of the terms and conditions of a GP or an IP. The Corps may elect to suspend enforcement proceedings if the permittee modifies his project to comply with a GP.

After considering whether a violation was knowing or intentional, and other indications of the need for a penalty, the Corps can elect to terminate an enforcement proceeding with an after-the- fact authorization under a GP, if all terms and conditions of the GP have been satisfied, either before or after the activity has been accomplished.

[2] Located at www.nae.usace.army.mil/missions/regulatory under "Forms & Publications."

IV. GENERAL CONDITIONS

To qualify for GP authorization, the prospective permittee must comply with the following general conditions, as applicable.

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

1. Other Permits. Permittees must obtain other federal, state, or local authorizations required by law. Applicants are responsible for applying for and obtaining all required state or local approvals. 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 http://www.maine.gov/dacf/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 square feet (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 (PCN), 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 supplement (see Appendix C). 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 LUPC jurisdiction regardless of whether they're shown on LUPC 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. See www.nae.usace.army.mil/missions/regulatory >> Jurisdictional Limits and Wetlands for more information on delineating jurisdictional areas.

3. Minimal Direct, Secondary, and Cumulative Effects[3]

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 4) 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 and Appendix F.

c. Site clearing, grading and construction activities in the upland habitat surrounding vernal pools ("Vernal Pool Management Areas") are secondary impacts. See GC 23 for avoidance and minimization requirements and recommendations.

d. Bank stabilization activities in tidal waters are provided at Appendix A, Page 30. Direct impacts in tidal waters from contiguous bank stabilization projects in excess of 200 linear feet (Applicant or Applicant + Abutters combined) must undergo Category 2 review.

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

a. 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.

b. Applicants proposing work in jurisdictional waters should consider riparian/forested buffers for stormwater management and low impact development (LID) best management practices (BMPs) to reduce

[3] Direct, secondary and cumulative effects are defined at Appendix F, Definitions and Acronyms.

impervious cover and manage stormwater to minimize secondary impacts to aquatic resources to the maximum extent practicable.[4]

c. Compensatory mitigation[5] for effects to waters of the U.S., including direct, secondary and temporal[6], may be required for permanent impacts that exceed the SV area limits, and may be required for temporary impacts that exceed the SV area limits, to offset unavoidable impacts which remain after all appropriate and practicable avoidance and minimization has been achieved and to ensure that the adverse effects to the aquatic environment are no more than minimal. Proactive restoration projects or temporary impact work with no lasting secondary effects may generally be excluded from this requirement. Refer to Appendix G.

5. Single and Complete Projects[7]

a. This GP shall not be used to piecemeal work and shall be applied to single and complete projects. 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[7].

c. Unless the Corps determines the activity has independent utility:

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.

d. For linear projects, such as power lines or pipelines with multiple crossings, the single and complete project is all crossings of a single water of the U.S. (i.e., single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly-shaped wetland or lake, etc., are not separate waterbodies and crossings of such features cannot be considered separately. If any crossing requires a Category 2 activity, then the entire linear project shall be reviewed as one project under Category 2.

6. Historic Properties

a. No undertaking shall cause effects (defined at 33 CFR 325 Appendix C and 36 CFR 800) on properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places[8], including previously unknown historic properties within the permit area, unless the Corps or another Federal action agency has satisfied the consultation requirements of Section 106 of the National Historic Preservation Act (NHPA). The State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO) and the National Register of Historic Places can assist with locating information on: i) previously identified historic properties; and ii) areas with potential for the presence of historic resources, which may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with the Corps and the SHPO and/or THPO(s).

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[4] See: www.nae.usace.army.mil/missions/regulatory >> State General Permit >> Permit Resources >> Mitigation for this additional information: a) "Wetland BMP Manual - Techniques for Avoidance & Minimization," b) riparian/forested buffer BMPs, and c) LID BMPs. LID BMPs include, but are not limited to: replacing curbs and gutters with swales; using an open space design for subdivisions; using permeable, pervious or porous pavements; constructing bio-retention systems; and/or, adding a green roof or rain garden.

[5] Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR 332. See also the New England District Compensatory Mitigation Guidance at www.nae.usace.army.mil/regulatory >> Mitigation.

[6] Temporal loss: The time lag between the loss of aquatic resource functions caused by the permitted impacts and the replacement of aquatic resource functions at the compensatory mitigation site(s) (33 CFR 332.2).

[7] Single and Complete Project and Independent Utility are defined in Appendix F - Definitions.

[8] The majority of historic properties are not listed on the National Register of Historic Places and may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with the Corps and the SHPO and/or THPO(s).

b. For activities eligible for SV, proponents must ensure and document that the activity will not cause effects as stated in 6(a). Proponents must submit a PCN if the authorized activity may cause effects as stated in 6(a) as soon as possible to ensure that the Corps is aware of any potential effects of the permitted activity on any historic property to ensure all Section 106 requirements are met.

c. All PCNs shall: i) show notification to the SHPO and applicable THPO(s)[9] for their identification of historic properties, ii) state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties, and iii) include any available documentation from the SHPO or THPO(s) indicating that there are or are not historic properties affected. Starting consultation early in project planning can save proponents time and money.

d. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

7. Corps Projects and Property

a. In addition to any authorization under this GP, proponents must contact the Corps Real Estate Division at (978) 318-8585 for work occurring on or potentially affecting Corps properties and/or Corps-controlled easements to initiate reviews and determine what real estate instruments are necessary to perform work. Permittees may not commence work on Corps properties and/or Corps-controlled easements until they have received any required Corps real estate documents evidencing site-specific permission to work.

b. Any proposed temporary or permanent alteration, or modification or use, including occupation, of a federal project (including but not limited to a levee, dike, floodwall, channel, anchorage, breakwater, seawall, bulkhead, jetty, wharf, pier or other work built 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 operations and maintenance, is not eligible for SV and requires review and approval by the Corps pursuant to 33 USC 408. Where Section 408 is applicable, a decision on a Department of the Army general permit application will not be rendered prior to the decision on a Section 408 request.

c. Any structure or work within any Corps Federal Navigation Project (FNP) or its buffer zone[10], shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys. See GC 10 for more requirements related to FNPs.

8. Federal Threatened and Endangered Species

a. No activity is authorized which: i) is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species; ii) "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed; or iii) violates the ESA.

b. **All applicants must request an Official Species List from the US Fish & Wildlife Service and must include the list in the Corps permit application. To request an Official Species List, refer to the instructions in Appendix D.**

c. For federally listed species in tidal waters, applicants should contact the National Marine Fisheries Service at: http://www.greateratlantic.fisheries.noaa.gov/protected/section7/

[9] Appendix E, 3(a)&(b). Historic Resources, provides contact information and each tribe's "area of concern."
[10] See Appendix H for a list of FNPs. The buffer zone is equal to three times the authorized depth of the FNP.

d. A PCN is required if a threatened or endangered species, a species proposed for listing as threatened or endangered, or designated or proposed critical habitat (all hereinafter referred to as "listed species or habitat"), as identified under the ESA, is present in the action area[11].

e. Federal agencies should follow their own procedures for complying with the requirements of the ESA but should coordinate that consultation with the Corps as well.

9. Wild and Scenic Rivers.[12] 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 2015 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); and 11.25 miles of the York River, in the State of Maine, from its headwaters at York Pond to the mouth of the river at York Harbor, plus its tributaries (currently under study).

10. Navigation

a. Any structure or work that extends closer to the horizontal limits of any Corps Federal Navigation Project (see Appendix H) 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 28 (Moorings) and Page 29 (Structures, Floats & Lifts).

b. 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.

c. 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.

d. A PCN is required for all work in, over or under an FNP or its buffer zone unless otherwise indicated in Appendix A. (Reference Appendix A, Endnote 13, Page 36)

11. 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.

12. Utility Line Installation and Removal

a. Subsurface utility lines shall remain subsurface. If it is necessary to discharge dredged or filled material not previously authorized in order to keep such utility lines buried or restore them to their original subsurface condition, a PCN and written verification from the Corps may be required (e.g., in the case of side

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[11] The "Endangered Species Consultation Handbook – Procedures for Conducting Consultation and Conference Activities Under Section 7 of the ESA," defines action area as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. [50 CFR 402.02]."

[12] Additional information can be found at: http://www.rivers.gov.

casting into wetlands from utility trenches). Certain repair, replacement or maintenance activities may be eligible for Category 1 – refer to Appendix A.

b. Subsurface utility lines must be installed at a sufficient depth to avoid damage from anchors, dredging, etc., and to prevent exposure from erosion and stream adjustment. In accordance with Corps New England District Regulation NEDER 1110-1-9 (www.nae.usace.army.mil/missions/regulatory >> Useful Links and Documents), as an absolute minimum, the bottom cover associated with the initial installation of utility lines under navigable waters and navigation channels shall be 48 inches in soil or 24 inches in rock excavation in competent rock unless specified in a written determination. These minimum bottom cover requirements for pipelines and cables shall be measured from the maximum depth of dredging to the top of the utility. The maximum depth of dredging, in waterways having existing FNPs, is generally considered to be the authorized project depth plus any allowance for advanced maintenance and the allowable overdepth for dredging tolerances. In waterways that do not have existing FNPs, this depth should be taken as two feet below the existing bottom or maximum depth of proposed dredging, as applicable.

c. Aerial utility lines that cross navigable waters must meet minimum clearances. See 33CFR322.5(i).

d. For horizontal directional drilling work, returns of drilling fluids to the surface (i.e., frac-outs) are not authorized and require restoration to the maximum extent practicable in accordance with the terms and conditions of this GP. The permittee and its contractor shall have onsite and shall implement the procedures detailed in a frac-out contingency plan for monitoring drilling operations and for the immediate containment, control and recovery/removal of drilling fluids released into the environment should a discharge of material occur during drilling operations.

e. Within the context of any new installations, any abandoned or inactive utility lines should be removed and faulty lines (e.g., leaking hazardous substances, petroleum products, etc.) should be removed or repaired to the extent practicable. A PCN and written verification from the Corps is required if they are to remain in place, e.g., to protect sensitive areas or ensure safety.

f. No work shall drain a water of the U.S. by providing a conduit for water on or below the surface. Trench plugs installed along pipelines may be effective.

13. Heavy Equipment in Wetlands or Mudflats. 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. Construction mats should be managed in accordance with the Construction Mat BMPs at www.nae.usace.army.mil/missions/regulatory >> State General Permits >> Permit Resources.

14. 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 and disturbed soils shall be stabilized to prevent its eroding into waters of the U.S. where it is not authorized. Work shall include phased or staged development to ensure only areas under active development are exposed and to allow for stabilization practices as soon as practicable, typically within three calendar days after disturbance. Accelerated stabilization (the providing of temporary or permanent cover by the end of the work day to prevent erosion) shall be employed as necessary. Temporary fill must be placed in a manner that will prevent it from being eroded by expected high flows.

b. Unconfined temporary fill authorized for discharge into waters of the U.S. (e.g., temporary stream crossings) shall consist of material that minimizes impacts to water quality (e.g. washed stone, stone, etc.).

c. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Place materials in a location and manner that does not adversely impact surface or subsurface water flow into or out of the wetland. Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric or other appropriate material laid on the pre-construction wetland grade where practicable to minimize impacts and to facilitate restoration to the original grade. Construction mats are excluded from this requirement.

d. Temporary fill, construction mats and corduroy roads shall be entirely removed as soon as they are no longer needed to construct the authorized work. Temporary fill shall be placed in its original location or disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S. To qualify for Category 1, temporary fill placed during the: i.) growing season must be removed before the beginning of the next growing season; and ii.) non-growing season may remain throughout the following growing season, but must be removed before the beginning of the next growing season.

e. Temporary fill, construction mats and corduroy roads are considered temporary only if they are removed as soon as they are no longer needed to construct the authorized work.

f. Construction debris and/or deteriorated materials shall not be located in waters of the U.S.

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

a. Temporary fills must be removed in their entirety and the affected areas restored to their pre-construction condition, function and elevation. Restoration shall typically commence no later than the completion of construction.

b. For excavated areas, "restored to pre-construction condition, function and elevation" means careful removal of existing soil and vegetation, separate topsoil and subsoil stockpiling, soil protection, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized. Plan for natural settling that will occur (the initial post-restoration elevation of the backfilled areas should be above the desired final grade as topsoil may settle by 33% to 50%), minimize compaction, and ensure that topsoil is void of gravel and subsoil. A minimum of 4 inches of topsoil should be at the surface after the soil has settled. Wetland areas temporarily disturbed shall be stabilized (e.g., seeded or planted). Seed mixes and vegetation shall include only plant species native to New England and shall not include any species listed as "Invasive and Other Unacceptable Plant Species" in the "New England District Compensatory Mitigation Guidance" (see GC 24 and refer to Appendix G). This list may be updated periodically.

c. Limit compaction to the minimum needed to promote a successful seedbed; avoid a 'fluffy' seedbed, which is susceptible to erosion until the plants get established, and a compacted topsoil layer, which is counter-productive and will lead to greater erosion susceptibility down the road. Test soils for compaction. A soil probe, auger, or shovel should be able to retrieve samples of post-restoration profile. Equipment refusal shall be considered a failure of restoration, in which case the soil should be restored through deep-ripping and/or de-compaction, or other appropriate methods, and wetland hydrology must be maintained. See the BMPs at www.nae.usace.army.mil/missions/regulatory >> State General Permits >> Permit Resources >> Restoration.

d. In areas of authorized temporary disturbance, cut woody vegetation (trees, shrubs, etc.) shall be cut at or above ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.

e. Trenches shall be constructed or backfilled so that the trench does not drain waters of the U.S. (e.g., materials or methods that create a French drain effect).

16. Soil Erosion, Sediment and Turbidity Controls

a. Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, installation of sediment control barriers (i.e. silt fence, vegetated filter strips, geotextile silt fences, erosion control mixes, hay bales or other devices) downhill of all exposed areas, retention of existing vegetated buffers, application of temporary mulching during construction, and permanent seeding and stabilization shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. They shall be capable of preventing erosion; of collecting sediment, suspended and floating materials; and of filtering fine sediment.

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

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

17. Time of Year Work Windows/Restrictions. For activities where work is authorized in streams and tidal waters that causes turbidity or sediment re-suspension or other construction related disturbances, work must be conducted during the following TOY work windows (not during the TOY restrictions) unless otherwise authorized by the Corps under Category 2 review:

	TOY Restriction (no work)	TOY Work Window (work allowed)
Non-tidal waters	Oct. 01 through Jul. 14	Jul. 15 through Sep. 30
Tidal waters	Apr. 10 through Nov. 07	Nov. 08 through Apr. 09

Alternate windows authorized under Category 2 may include species specific windows recommended by the Maine Dept. of Marine Resources and/or Maine Dept. of Inland Fisheries & Wildlife.

18. Aquatic Life Movements & Management of Water Flows

a. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Unless otherwise stated, activities impounding water in a stream require a PCN to ensure impacts to aquatic life species are avoided and minimized. All permanent and temporary crossings of waterbodies (e.g., streams, wetlands) shall be:

i. Suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species; and

ii. Properly aligned and constructed to prevent bank erosion or streambed scour both adjacent to and inside the culvert. Permanent and temporary crossings of wetlands shall be suitably culverted, spanned or bridged in such a manner as to preserve hydraulic and ecological connectivity between the wetlands on either side of the road.

b. To avoid adverse impacts on aquatic organisms, the low flow channel/thalweg shall remain unobstructed during periods of low flow, except when it is necessary to perform the authorized work.

c. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the preconstruction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

19. Water Quality and Coastal Zone Management

a. Applicants must satisfy any conditions imposed by the state and EPA, where applicable, in their CWA § 401 Water Quality Certifications (WQC) for this GP, or in any Individual § 401 WQC. See Appendix E for state-specific contact information and to determine if any action is required to obtain a 401 WQC. The Corps may require additional water quality management measures to ensure that the authorized activity does not cause or contribute to a violation of water quality standards. All projects authorized by this GP shall be designed, constructed and operated to minimize or eliminate the discharge of pollutants.

b. Applicants must satisfy any additional conditions imposed by the state in their Coastal Zone Management (CZM) Act consistency concurrences for this GP, or in any Individual CZM consistency concurrences. The Corps may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

20. Floodplains and Floodways

a. Appropriate measures must be taken to minimize flooding to the maximum extent practicable.

b. Activities within 100-Year Floodplains must comply with applicable Federal Emergency Management Agency (FEMA)-approved state and/or local floodplain management permitting requirements. Proponents may need to coordinate with FEMA and apply for a formal change to the flood insurance study products or forward a set of project plans and relevant technical documentation in a digital format to the Risk

Analysis Branch Chief, Mitigation Division, FEMA, Region 1, 99 High Street, Boston, Massachusetts 02110. Applicants should provide a copy of any documentation to the Corps along with the PCN.

c. Proponents may have to obtain a Flood Hazard Development Permit issued by the town. Inquiries may be directed to the municipality or to the Maine Floodplain Management Coordinator at (207) 287-8063. See http://www.maine.gov/dacf/flood/

21. Storage of Seasonal Structures. Seasonal or recreational structures such as pier sections, floats, aquaculture structures, etc. that are removed from the waterway for a portion of the year (often referred to as seasonal structures) shall be stored in an upland location landward of mean high water (MHW) or ordinary high water (OHW) and not in wetlands, tidal wetlands, their substrate or on mudflats. These seasonal structures may be stored on the fixed, pile-supported portion of the structure that is waterward of MHW or OHW. Seasonal storage of structures in navigable waters, e.g., in a protected cove on a mooring, requires Corps approval and local harbormaster approval.

22. Spawning, Breeding, and Migratory Areas

a. Jurisdictional activities and impacts such as excavations, discharges of dredged or fill material, and/or suspended sediment producing activities in jurisdictional waters that provide value as fish migratory areas, fish and shellfish spawning or nursery areas, or amphibian and migratory bird breeding areas, during spawning or breeding seasons shall be avoided and minimized to the maximum extent practicable.

b. Jurisdictional activities in waters of the United States that provide value as breeding areas for migratory birds must be avoided to the maximum extent practicable. The permittee is responsible for obtaining any "take" permits required under the USFWS's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the USFWS to determine if such "take" permits are required for a particular activity (See Appendix E).

23. Vernal Pools

a. Only vernal pools that meet the current definition of waters of the U.S. are regulated by the Corps.

b. Direct and indirect adverse effects to all vernal pools (VPs), including their envelopes and critical terrestrial habitats (VP Management Areas[13]), shall be avoided and minimized to the maximum extent practicable. Site clearing, grading, and construction activities associated with a regulated activity in the VP Management Area may cause these adverse effects to the VP.

c. The State of Maine has specific protections for vernal pools.[14]

d. When any regulated activities occur within 750 feet of a vernal pool, the following management practices <u>must be followed</u> for all work within any VP Management Area (750' of a VP's edge) *in order to qualify for Category 1*:

i. No disturbance within the VP Depression or VP Envelope (area within 100 feet of the VP Depression's edge)[15];

ii. 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;

iii. Maintain or restore forest corridors connecting wetlands and significant vernal pools;

iv. Minimize forest floor disturbance; and

v. Maintain native understory vegetation and downed woody debris.

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[13] The Corps VP Management Area, which includes the VP and a 750' radius from the VP's edge, is defined at Appendix A, Endnote 5.

[14] Appendix G, 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.

[15] 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.

vi. Cape Cod style-curbing or no curbing options shall be used on new roads to facilitate amphibian passage. (Reference Appendix G)

e. A PCN is required for any regulated activity within 750' of a vernal pool when all work within the VP Management Area does not comply with the Category 1 requirements in (d) above. Information on directional buffers in accordance with the VP Directional Buffer Guidance document may be provided in order to demonstrate minimal impact and avoid compensation requirements (Reference Appendix G). Conservation of the un-impacted area within the VP Management Area will often be required.

f. GC 2 requires applicants to delineate or approximately identify on the project plans all waters of the U.S., which contain vernal pools.

g. GC 23(b-d) do not apply to projects that are within a municipality and meet the provisions of a Corps-approved VP Special Area Management Plan (VP SAMP) and are otherwise eligible for self-verification.

24. Invasive and Other Unacceptable Species[16]

a. The introduction or spread of invasive or other unacceptable plant or animal species on the project site or areas adjacent to the project site caused by the site work shall be avoided to the maximum extent practicable. For example, construction mats and equipment shall be thoroughly cleaned and free of vegetation and soil before and after use. The introduction or spread of invasive plant or animal species on the project site caused by the site work shall be controlled.

b. No cultivars, invasive or other unacceptable plant species may be used for any mitigation, bioengineering, vegetative bank stabilization or any other work authorized by this GP. However, non-native species and cultivars may be used when it is appropriate and specified in a written verification, such as using *Secale cereale* (Annual Rye) to quickly stabilize a site. All PCNs should explain the reason for using non-native species or cultivars.

25. Programmatic Consultations or Agreements. The Corps requirements to comply with Section 106 of the NHPA, Section 7 of the Endangered Species Act or Essential Fish Habitat conservation under the Magnuson-Stevens Act may be satisfied by a Programmatic Agreement with the Corps, New England District or another federal action agency. Any Corps, New England District Programmatic Agreements will be available on our website.

26. Permit On Site. The permittee shall ensure that a copy of this GP and any accompanying authorization letter with attached plans are at the site of the work authorized by this GP whenever work is being performed and that all construction personnel performing work which may affect waters of the U.S. are aware of its terms and conditions. The entire permit authorization shall be made a part of any and all contracts and subcontracts for work that affects areas of Corps jurisdiction at the site of the work authorized by this GP. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means this entire 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 subcontract. Although the permittee may assign various aspects of the work to different contractors or subcontractors, all contractors and subcontractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization, and no contract or subcontract shall require or allow unauthorized work in areas of Corps jurisdiction.

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[16] For the purposes of this GP, plant species that are considered invasive and unacceptable are provided in Appendix G "Invasive and other Unacceptable Plant Species" of our document "Compensatory Mitigation Guidance" at www.nae.usace.army.mil/missions/regulatory >> Mitigation. Chapter 4(e) Planting is also particularly relevant. The June 2009 "Corps of Engineers Invasive Species Policy" provides policy, goals and objectives and is located at www.nae.usace.army.mil/missions/regulatory >> Invasive Species. Additional information can be found at: www.eddmaps.org/ipane.

27. Self-Verification Notification Form (SVNF). Permitees must complete and submit the SVNF provided at Appendix B to the Corps for work authorized by this GP unless otherwise noted in Appendix A. **NOTE: A copy of a state permit application form may be an acceptable surrogate for the SVNF provided either form used also include plans and an Official Species List of federally listed threatened or endangered species.**

28. Inspections. The permittee shall allow the Corps to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of this GP and any written verification. The Corps may also require post-construction engineering drawings for completed work, post-dredging survey drawings for any dredging work, or other post-construction reports. To facilitate these inspections, the permittee shall complete and return to the Corps the following forms:

- For Category 1/Self-Verification: The SVNF (see Appendix B).
- For Category 2/PCN: The a) Work-Start Notification Form and b) Compliance Certification Form, when either is provided with the authorization letter.

29. Maintenance

a. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable general conditions and activity-specific conditions to a written verification.

b. The requirement in (a) above does not include maintenance of dredging projects. Each maintenance dredging event exceeding the self-verification limits requires a new PCN unless an unexpired, written PCN or other Corps authorization specifies that the permittee may "dredge and maintain" an area for a particular time period. Self-verification or PCN maintenance dredging includes only those areas and depths previously authorized and actually dredged. Maintenance dredging with ocean or open water disposal will always require a PCN and at least Category 2 review.

c. Some maintenance activities may not be subject to regulation under Section 404 in accordance with 33 CFR 323.4(a)(2). Refer to Appendix A, Endnote 7.

30. Property Rights. This GP 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.

31. 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 authorizations, as well as the new owner(s) of the property. If the permittee sells the property associated with a GP verification, the permittee may transfer the GP verification to the new owner by submitting a letter to the Corps (see Appendix E for address) to validate the transfer. A copy of the GP verification must be attached to the letter, and *the letter must contain the new owner's contact information and 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."

_____

(Transferee)

_____

(Date)

32. Modification, Suspension, and Revocation. Any work authorized under this GP by self-verification or PCN 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 U.S.

33. 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 terms and conditions of the authorization, including special conditions, constitutes a permit violation and may subject the permittee to criminal, civil or administrative penalties and/or an ordered restoration.

34. 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 Corps may determine that the GP authorization is not valid; modify, suspend or revoke the authorization; and the U.S. Government may institute legal proceedings.

35. 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.

36. Enforcement cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with an ongoing Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps or EPA, as appropriate, determines that the activity may proceed independently without compromising the enforcement action.

37. Duration of Authorization. This GP expires on October 12, 2020. 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 12, 2021 to complete the activity under the terms and conditions of the current GP.

38. 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 GP in effect between October 12, 2010 and October 12, 2015 remains authorized subject to the terms and general conditions of this GP along with any special conditions in the authorizing written letter. Exception – if previously authorized work is not commenced and a new federally listed threatened or endangered species could be affected, the Corps must consult with the Service(s) prior to re-authorizing the work under this GP. Requests for re-authorization must include an updated Official Species list. To request an Official Species List, refer to the instructions in Appendix D.

39. 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.

40. 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 a PCN 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.

41. National Lands. 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 are not eligible for Category 1 and require a PCN.

42. Essential Fish Habitat (EFH). 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 G 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 28 for Category 1 thresholds and requirements)
- Structures, floats & lifts (see Appendix A, Page 29 for Category 1 thresholds and requirements)
- Other activities specified in a programmatic agreement with NMFS.

43. 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 GC 24 and refer to Appendix G). 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.

44. 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.

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 total length along the bank(s); 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 sub-angular 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. Bank stabilization activities in tidal waters are provided at Appendix A, Page 30 & 31. Direct impacts in tidal waters from contiguous bank stabilization projects in excess of 200 linear feet (Applicant or Applicant + Abutters combined) must undergo Category 2 review.

45. Stream Work and Crossings & Wetland Crossings

Notes:

a. For *Stream Work and Crossings* below, conditions (a) and (b) apply to Inland Waters and Wetlands (see Appendix A, Page 1 for definition) and Navigable Waters (see Appendix A, Page 27 for definition). Conditions (c)-(l) below 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, Atlantic sturgeon, or shortnose sturgeon [see GC 8(b)] and some stream work such as crossings on EFH waters (see GC 42) 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 for more state contact information.

Conditions for Stream Work and Crossings:

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 G, 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 45(a) and GC 45(b) above.

ii. Shall be designed and constructed in accordance with the Corps General Stream Crossing Standards provided on Page 19 and the stream simulation document listed at Appendix G, 8(a).

d. Replacement Stream Crossings. For replacement stream crossings to qualify for Category 1:

i. Must ensure compliance with GC 45(a) and GC 45(b) above.

ii. Shall be designed and constructed in accordance with the Corps General Stream Crossing Standards provided on Page 19 and the stream simulation document listed at Appendix G, 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 and at least Category 2 review.

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 G, 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[17] (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:

1. Installed and removed during the low flow period specified in GC 45(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[18].

g. Slip Lining. Work using slip lining (retrofitting an existing culvert by inserting a smaller diameter pipe), invert lining, or resulting in decreased diameter, does 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 14(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 45(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 45(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 45(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 GC 45(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 – September 30 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.

Corps General Stream Crossing Standards (required for Category 1; *recommended* for Category 2):

a. Culverts must be embedded:

[17] 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.

[18] Design and construction shall be in accordance with the stream simulation document listed at Appendix G, 8(a).

- ≥ 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[17] are required to avoid or cause minimal disruption to the streambed and to meet the requirements of General Condition 45(a) and 45(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 45(h)ii requires Category 2 review and, unless demonstrated otherwise, stream simulation[18] to establish substrate and banks in the span structure and work area as specified in (d) and (e) below.

c. **For replacement crossings**, spans[17] are required to meet the requirements of General Condition 45(a) and 45(b). Footings and abutments shall be landward of 1.2 times bankfull width. Unless demonstrated otherwise, stream simulation[18] 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) 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[18]. Note: Installation of substrate material within smaller culverts may not be safe or practicable. In these cases, it may be necessary to allow for natural deposition and bed development unless alternative methods are identified.

e. Crossings must be designed and constructed[18] 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.

<u>Conditions for Wetland Crossings</u>:

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 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.

Robert J. Desista
Deputy Chief, Regulatory Division
For DISTRICT ENGINEER **DATE** 10/13/15

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. (tidal and freshwater).*** 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 and designated activities, 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 B. Navigable Waters on page 27 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 5–20).	
ACTIVITY	**CATEGORY 1** Self-Verification Eligible **(*SVNF Required*)**	**CATEGORY 2 (*PCN Required*)**
1. Repair, Replacement, Expansion, and Maintenance of Authorized Structures and Fills	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. • No effect on federally listed endangered or threatened species or critical habitat.	Replacement of non-serviceable fills, or repair/maintenance of serviceable fill, with expansion <3 acres, or with a change in use.
2. Moorings	NA – moorings in non-navigable inland waters are not subject to Corps jurisdiction. Note: Moorings placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on Page 28 below.)	NA
3. Structures, Floats & Lifts	For solid fill or crib supported structures on inland waters, <15,000 square feet (SF) of waterway and/or wetland fill, associated secondary impacts[2] , and temporary fills. • No effect on federally listed endangered or threatened species or critical habitat. • Note: Temporary or permanent structures placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 29 below.	1. Work not eligible for Category 1 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated).
4. Aids to Navigation and Temporary Recreational Structures	NA - this activity in non-navigable inland waters is not subject to Corps jurisdiction. Note: Aids to Navigation and other structures placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 30 below.)	NA

5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation	1. For regulated discharges associated with excavation, and disposal <15,000 SF inland waterway and/or wetland impacts. 2. The activity does not occur in navigable waters of the U.S. 3. Stream channelization, relocation or loss of streambed including impoundments or discharge of tailings into streams does not occur. 4. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1 2. ≥15,000 SF to <3 acres of inland waters.
6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges	NA - For discharges incidental to the construction of bridges in inland waters of the U.S. refer to Activity 23 (Stream and Wetland Crossings) and GC 45. Note: Discharges of Dredged or Fill Material Incidental to the Construction of Bridges in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 30 below.)	NA
7. Bank and Shoreline Stabilization	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 44 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 45(h)). • In-water work limited to Jul 15 – Sep 30. • No work in vernal pools[5] or SAS[3]. • No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
8. Residential, Commercial, Industrial, and Institutional Developments, and Recreational Facilities	1. <15,000 SF 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 GC 14] <u>Provided:</u> • Historic fill + proposed impact area <15,000 SF complies with GC 5, Single and Complete Projects. • No work in special aquatic sites (SAS)[4] other than wetlands. • No effect on federally listed endangered or threatened species or critical habitat. 2. For work in Vernal Pool (VP) Management Areas (includes VPs)[5]:	1. Work not eligible for Category 1. 2. ≥15,000 SF 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 (including mats), and regulated discharges associated with excavation. 3. *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.* See GC 2 and Appendix C for wetland delineation

	• See GC 23 and Appendix C for VP delineation requirements. • See GC 23 to determine if work qualifies for Category 1 or 2. • See Appendix G for VP documents providing mitigation guidance.	requirements.
9. Utility Line Activities	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts[2], and temporary fills. 2. The activity does not occur in, over, or under navigable waters of the U.S. 3. Intake structures that are dry hydrants used exclusively for firefighting activities with no stream impoundments. 4. There is no permanent change in pre-construction contours in waters of the U.S. 5. Material resulting from trench excavation is temporarily side cast into waters of the U.S. for ≤ 3 months and is placed in such a manner that it is not dispersed by currents or other forces. 6. The utility line is placed within and does not run a) parallel to, or b) along a streambed. 7. Stream channelization, relocation or loss of streambed including impoundments does not occur. 8. No effect on federally listed endangered or threatened species or critical habitat. 9. There is no discharge in SAS other than non-tidal wetlands. 10. 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 43). 11. Stream crossings must comply with GC 17.	1. Work not eligible for Category 1 2. ≥15,000 SF 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 (including mats), and regulated discharges associated with excavation. 3. *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.*
10. Linear Transportation Projects *(not including stream crossings)* **For stream crossings, refer to Activity 23**	1. <15,000 SF of inland waterway and/or wetland fill associated secondary impacts (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 fill. (See GC 14.) Provided: • Historic fill + proposed impact area <15,000 SF and complies with GC 5 single and complete projects. • No work in special aquatic sites (SAS) 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 43). 3. No effect on federally listed endangered or threatened species or critical habitat.	1. ≥15,000 SF 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 (including mats), and regulated discharges associated with excavation. 2. *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.*

11. Mining Activities	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. The activity does not occur in navigable waters of the U.S. 3. Stream channelization, relocation or loss of streambed including impoundments or discharge of tailings into streams does not occur. 4. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1. 2. ≥15,000 SF 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 (including mats), and regulated discharges associated with excavation.
12. Boat Ramps	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1 2. >15,000 SF and < 3 acres of impact.
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects	*For land-based facilities:* 1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. Stream channelization, relocation or loss of streambed including impoundments does not occur. 3. No effect on federally listed endangered or threatened species or critical habitat. *For water-based facilities and hydropower projects:* No new facilities are eligible.	*For land-based activities:* 1. Work not eligible for Category 1. 2. >15,000 SF and < 3 acres impact. 3. *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.* *For water-based facilities and hydropower projects:* > 3 acres of impact will require an IP.
14. Reshaping Existing Drainage Ditches & Mosquito Management	Not Applicable	Not Applicable
15. Oil Spill and Hazardous Material Cleanup	Jurisdictional 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 or 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. ***Note: SVNF or a surrogate state reporting form may be submitted after the fact.***	Work not eligible for Category 1

16. Cleanup of Hazardous and toxic waste	Specific jurisdictional activities to effect the containment, stabilization, or removal of hazardous or toxic waste materials, including court ordered remedial action plans or related settlements, which are performed, ordered or sponsored by a government agency with established legal or regulatory authority. SAS should be restored in place at the same elevation. • <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. • No stream channelization, relocation or loss of streambed occurs. • The project does not involve establishing new disposal sites or expanding existing sites used for the disposal of hazardous or toxic waste. • No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
17. Scientific Measurements Devices	1. 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 or concentrate movement of aquatic organisms. 2. No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
18. Survey Activities	1. Jurisdictional 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 43. 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). 2. No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
19. Agricultural Activities	1. For those activities subject to Corps jurisdiction[16], <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. No stream channelization, relocation, loss of streambed, or farm ponds in streams. 3. No effect on federally listed endangered or threatened species or critical habitat.	1. ≥15,000 SF 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 (including mats), and regulated discharges associated with excavation. 2. > 3 acres of impact will require an IP.

20. Fish and Wildlife Harvesting, Enhancement and Attraction Devices and Activities	NA - this activity in non-navigable inland waters, if not involving a discharge of dredged or fill material, is not subject to Corps jurisdiction. Note: Related structures placed in freshwater navigable waters (e.g. the upper Penobscot or Kennebec Rivers) are reviewed in the Navigable Waters section. (See B. Navigable Waters on Page 33 below.)	Not Applicable
21. Habitat Restoration, Establishment and Enhancement Activities	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. The activity is supported in writing by a local, state, or non-Corps Federal environmental agency. Water impoundments require PCN. 3. No conversion of i) a stream to wetland or vice versa, wetland to a pond or uplands, and ii) one wetland type to another. 4. No dam removal. 5. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1 2. 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]
22. Previously Authorized Activities	Any work not commenced nor completed that was authorized in a written letter from the Corps under the GP in effect between October 12, 2010 and October 12, 2015. The terms and general conditions of this GP apply along with any special conditions in the written authorization.	
23. Stream & Wetland Crossings	1. River, stream and brook work and crossings: • Must comply with GC 45 in particular, including: o No slip lining [see GC 45 (g)]. o No in-stream work involving fill or excavation in flowing waters [see GC 45(h)]. o In-stream work limited to Jul 15 – Sep 30 [see GC 45 (l)]. • No work in riffles and pools[3]. • No stream relocations. • No dams or dikes[6]. • No effect on federally listed endangered or threatened species or critical habitat. • <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. Wetland crossings must comply with the particularly relevant GC 45.	Work not eligible for Category 1
24. Aquaculture (freshwater)	For land based installations, <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. • In-stream/in-water work limited to Jul 15 – Sep 30. • No effect on federally listed endangered or threatened species or critical habitat. Note: Related structures placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters, below.)	Work not eligible for Category 1

B. 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 - 20).	
ACTIVITY	**CATEGORY 1** Self-Verification Eligible ***(SVNF Required)***	**CATEGORY 2** ***(PCN Required)***
1. Repair, Replacement, Expansion, and Maintenance of Authorized (or grandfathered) Structures and Fills	1.Repair, replacement in-kind, or maintenance[7] of existing, currently serviceable[7], authorized structures or fills: • All work is to be conducted in-the-dry, during low water. • Conditions of the original authorization apply. • No substantial expansion or change in use. • No new fill in SAS[3]. • 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.	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. 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts. 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. 3. Standard Pile Driving Conditions. Work involving piles shall adhere to one of the four methods below: • Piles installed in-the-dry during low water or in-water between Nov. 8th - Apr. 9th, or • Must be drilled and pinned to ledge, or • Vibratory hammers used to install any size and quantity of wood, concrete or steel piles, or • 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 the methods above: o In-water noise levels shall not exceed >187dB cSEL re 1µPa or 206dB peak re 1µPa at a distance >10m from the pile being installed, and o In-water noise levels >150dB 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 150dB peak re 1µPa) must be provided between work days. • Existing derelict, degraded or abandoned piles in the project area that are affected by project activities should be removed and properly disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate or mudflats.

2. 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 or buffer zone[12] other than in a Federal Anchorage[12]. Moorings in a 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 should be replaced with low impact mooring technology that prevents 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, 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] ***Note: Cat 1 eligible moorings do not require SVNF.***	1. Moorings associated with an existing 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 H.) 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. For moorings that appear to impact SAS, the Corps may require an eelgrass survey.*
3. Structures, Floats and Lifts	1. Reconfiguration of existing authorized structures shall occur in-the-dry during low water. 2. Minor relocation of <u>previously authorized</u> floats or moored floats/lobster cars, 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. New structures or floats, including floatways/skidways, built to access waterway (seasonal and permanent). Includes both pile supported and crib supported structures. 2. Expansions to existing boating facilities[11] • *Pile-supported structures <400 SF, with attached floats totaling ≤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[3].*

		• *The Corps may require a letter of no objection from the abutter if structure is to be within 25 feet of the property line.* • *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) (Appendix 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 Appendix H). 4. An Individual Permit is required for structures & floats associated with a new or previously unauthorized boating facility[11]. 5. Standard Pile Driving Conditions. Work involving piles shall adhere to one of the four methods below: • Piles installed in-the-dry during low water or in-water between Nov. 8th - Apr. 9th, or • Must be drilled and pinned to ledge, or • Vibratory hammers used to install any size and quantity of wood, concrete or steel piles, or • 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 the methods above: o In-water noise levels shall not exceed >187dB cSEL re 1µPa or 206dB peak re 1µPa at a distance >10m from the pile being installed, and o In-water noise levels >150dB 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 150dB peak re 1µPa) must be provided between work days. • Existing derelict, degraded or abandoned piles in the project area that are affected by project activities should be removed and properly disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate or mudflats.

4. Aids to Navigation and Temporary Recreational Structures	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)." ***Note: Cat 1 eligible aids to navigation and regulatory markers do not require SVNF.***	Work not eligible for Category 1
5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation	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 within 100' of shellfish beds. • No dredging in areas designated as Critical Habitat for Atlantic salmon [see GC 8(b) & (c)]. • For dredging in tidal waters outside of Atlantic salmon critical habitat, applicants must contact NMFS (see GC 8) to ensure no impacts to listed species such as shortnose sturgeon, Atlantic surgeon, and listed sturgeon critical habitat. • Project proponents must contact the USFWS for work on coastal beaches to ensure no impacts to piping plovers, roseate terns, rufa red knot, or their habitat [see GC 8(c)]. • No underwater blasting. 2. Maintenance dredging 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. 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 the dredging's primary purpose is navigation or the 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.

6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges	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. 2. Causeways and approach fills are not included in this category and require Category 2 or Individual Permit authorization.	<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.
7. Bank and Shoreline Stabilization	1. Bank stabilization projects <200 linear feet provided: • ≤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. • No structures angled steeper than 1H:1V and only rough-faced stone or fiber roll revetments allowed. • No driving of piles or sheeting. 2. Bank stabilization projects in excess of 200 linear feet (Applicant or Applicant + Abutters combined) must undergo Category 2 review.	1. Work not eligible for Category 1. 2. <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.
8. Residential, Commercial, Industrial, and Institutional Developments, and Recreational Facilities	Not Eligible	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. 2. Conversions of previously authorized pile supported buildings over navigable waters to residences, offices, or other non-water dependent uses require at least a Category 2 review. 3. Floating house boats or businesses on floats require Category 2 review.
9. Utility Line Activities	1. Repair or maintenance of existing, currently serviceable, authorized utilities with no expansion or change in use: • Conditions of the original authorization apply. • Trenching or filling is confined to the existing footprint. • In water work conducted between Nov 8 and Apr 9. • No new impact to SAS. 2. Particularly relevant is GC12. 3. <u>New work</u> in, over, or under navigable waters requires a PCN and Category 2 review. 4. Except for aerial utility lines, 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	1. New or replacement installations or work not otherwise eligible for Category 1. 2. <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. 3. Particularly relevant is GC12

	Squaw Point) on Cape Jellison in Stockton Springs or in tidal	
10. Linear Transportation Projects **(Not Including Stream Crossings)**	Not eligible	<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.
11. Mining Activities	Not Eligible	Not Eligible
12. Boat Ramps and Marine Railways	1. No new impact to SAS 2. Marine railway and boat ramp work not eligible for maintenance[7] (i.e. not currently serviceable[7]) 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. 3. No new boat ramps or marine railways.	1. Work not eligible for Category 1 2. <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.
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects	Not Eligible	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. 2. No new impoundments.
14. Reshaping Existing Drainage Ditches and Mosquito Management	1. ≤500 linear feet of drainage ditch will be modified. The reshaping of the ditch cannot increase drainage capacity beyond the original as-built capacity nor can it expand the area drained by the ditch as originally constructed (i.e., the capacity of the ditch must be the same as originally constructed and it cannot drain additional wetlands or other waters of the U.S.). 2. No new ditches or relocation of drainage ditches constructed in waters of the U.S.; the location of the centerline of the reshaped drainage ditch must be approximately the same as the location of the centerline of the original drainage ditch. 3. No effect on federally listed endangered or threatened species or critical habitat	1. Work not eligible for Category 1 2. <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.

15. Oil Spill and Hazardous Material Cleanup	Jurisdictional 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. ***Note: SVNF or a surrogate state reporting form may be submitted after the fact. No SVNF is required for Category 1eligible containment booms.***	Work not eligible for Category 1
16. Cleanup of Hazardous and Toxic Waste	Not eligible - except for booms placed for hazardous and toxic waste containment and absorption and prevention which are eligible for SV. ***Note: No SVNF is required for Category 1 eligible containment booms.***	Specific jurisdictional 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 and other SAS must typically be restored in place at the same elevation to qualify.
17. Scientific Measurement Devices	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 or concentrate movement of aquatic organisms; no activity results in a hazard to navigation; and no activity requiring underwater blasting.	1. Work not eligible for Category 1 2. <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.
18. Survey Activities	Jurisdictional survey activities such as exploratory drilling, surveying and sampling activities, excluding any biological sampling devices. Does not include any activity requiring underwater blasting, seismic exploratory operations, or oil and gas exploration and fill for roads or construction pads. No activity may result in a hazard to navigation.	1. Work not eligible for Category 1 2. <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.
19. Agricultural Activities	Not Eligible	Not Eligible

20. Fish & Wildlife Harvesting, Enhancement and Attraction Devices and Activities (Not Aquaculture)	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 may result in a hazard to navigation. ***Note: A SVNF is not required for these Category 1 eligible devices and activities.***	1. Work not eligible for Category 1. 2. Impoundments or semi-impoundments of waters of the U.S. for the culture or holding of motile species such as lobster and new fish weirs with an impounded area ≤ ½ acre. For Aquaculture operations, refer to Activity 24.
21. Habitat Restoration, Establishment and Enhancement Activities	1. Cultch placement in tidal waters is eligible for SV provided there are no salt marsh or vegetated shallow impacts. 2. SAS planting and transplanting ≤ 100 SF in tidal waters; 3. No artificial or living reefs. 4. The activity is authorized in writing by a local, state, or non-Corps federal environmental agency. Water impoundments require PCN. 5. No conversion of i) a stream to wetland or vice versa, wetland to a pond or uplands, and ii) one wetland type to another. 6. No dam removal. 7. Shellfish habitat enhancement such as brushing the flats is eligible for Category 1, *but not the use of netting which requires Category 2 review.*	1. Work not eligible for Category 1. 2. Aquatic habitat restoration, establishment and enhancement provided those activities are proactive and result in net increases in aquatic resource functions and services.[8]
22. Previously Authorized Activities	Any work not commenced nor completed that was authorized in a written letter from the Corps under the GP in effect between October 12, 2010 and October 12, 2015. The terms and general conditions of this GP apply along with any special conditions in the written authorization.	
23. Stream & Wetland Crossings	Not Eligible	All temporary or permanent crossings of tidal navigable waters or adjacent tidal wetlands not eligible as maintenance require a PCN. GC 45 applies
24. Aquaculture	Not Eligible	Shellfish & finfish aquaculture (with the exception of Atlantic salmon and any other salmonid, or other federally listed endangered or threatened species), or other aquaculture facilities with no more than minimal individual and cumulative impacts to environmental resources or navigation. This is inclusive but not limited to cages, nets, bags, racks, long lines, fences, posts, poles, predator screening, etc. Aquaculture guidelines are provided at: www.maine.gov/dmr/aquaculture/index.htm.

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 high water 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 G, 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)** The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3 – "Activities occurring before certain dates," provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification.

- Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make repair, rehabilitation, or replacement are authorized.
- Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.
- No seaward expansion for bulkheads or any other fill activity is considered Category 1 maintenance.
- Only structures or fills that were previously authorized and are in compliance with the terms and condition of the original authorization can be maintained as a non-regulated activity under 33 CFR 323.4(a)(2), or in accordance with the Category 1 or 2 thresholds in Appendix A.

b) The state's maintenance provisions may differ from the Corps and may require reporting and written authorization from the state.

c) Contact the Corps to determine whether stream crossing replacements require a written application to the Corps for at least a Category 2 review.

d) Exempted Maintenance. In accordance with 33 CFR 323.4(a)(2), any discharge of dredged or fill material that may result from any of the following activities is not prohibited by or otherwise subject to regulation under Section 404 of the CWA: "Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Maintenance does not include any modification that changes the character, scope, or size of the original fill design."

[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. The Corps may require proof of authorization. Maintenance dredging typically refers to the routine removal of sediment to maintain the design depths of serviceable navigation channels, harbors, basins, marinas, boat launches, and port facilities. Maintenance dredging is conducted for navigational purposes and does not include any expansion of the previously dredged area or depth. The Corps may review a maintenance dredging activity as new dredging if sufficient time has elapsed to allow for the colonization of SAS, shellfish, etc.

[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. Note: Eelgrass surveys should be conducted be conducted between May and October unless otherwise directed.

[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.

[16] **Agricultural Activities:** The Clean Water Act exempts certain discharges associated with normal farming, ranching, and forestry activities such as plowing, cultivating, minor drainage, and harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices (Section 404(f)(1)(A)). Applicants are strongly advised to contact the Corps for a determination of whether their activity is exempt or requires a permit.

US Army Corps of Engineers®
New England District

Appendix B: Self-Verification Notification Form

(for all tidal and non-tidal projects in Maine subject to Corps jurisdiction)

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

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

State Permit Number: _____
Date of State Permit: _____
State Project Manager: _____

Permittee: _____
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: _____ Tax Map/Lot: _____
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: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
II. Navigable Waters: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

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

Permittee Printed Name: _____

Permittee Signature: _____ Date: _____

US Army Corps of Engineers®
New England District

Appendix C: Content of Pre-Construction Notification

In addition to the following required information, the applicant must provide additional information as the Corps deems essential to make a public interest determination including, where applicable, a determination of compliance with the Section 404(b)(1) guidelines or ocean dumping criteria. Such additional information may include environmental data and information on alternate methods and sites as may be necessary for the preparation of the required environmental documentation. For a more comprehensive checklist, go to www.nae.usace.army.mil/missions/regulatory >> Forms >> Application and Plan Guideline Checklist. Please check with the Corps for project-specific requirements.

Information required for all projects:

- ☐ Corps application form (ENG Form 4345) or appropriate state application form (see Appendix E). Forms may need to be supplemented to include the information noted below.
- ☐ Proof of notification to the SHPO and the appropriate THPOs (see Appendix E).
- ☐ Official Species List for any federally listed endangered or threatened species (Instructions at Appendix D)
- ☐ Drawings, sketches, or plans (detailed engineering plans and specifications are not required) that are legible, reproducible (color is encouraged, but features must be distinguishable in black and white), no larger than 11"x17", with bar scale. Wetland area impact sheets should have the highest resolution possible to show work within Corps jurisdiction (do not just reduce project overview or cut large-scale plan into quadrant sheets). Provide locus map and a plan overview of the entire property with a key index to the individual impact sheets. A locus map be on a section of color USGS topographic map is encouraged. Digital submissions are encouraged.
- ☐ Include:
  - ☐ All direct, secondary, permanent and temporary effects the project would cause, including the anticipated amount of impacts to waters of the U.S. expected to result from the activity, in acres, linear feet, or other appropriate unit of measure.
  - ☐ Any historic permanent fill associated with each single and complete project.
  - ☐ Cross-section views of all wetland and waterway fill areas and wetland replication areas.
  - ☐ Delineation of all wetlands, other special aquatic sites (vegetated shallows, saltmarsh, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges), and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Use Federal delineation methods and include Corps wetland delineation data sheets (see GC 2).
  - ☐ MLW and MHW elevations in tidal waters. Show the HTL elevations when fill is involved. Show OHW elevation in lakes and non-tidal streams.
  - ☐ Existing and proposed conditions.
  - ☐ For vegetated shallow and eelgrass survey guidance, see www.nae.usace.army.mil/missions/regulatory >> Jurisdictional Limits and Wetlands >> Submerged Aquatic Vegetation Survey Guidance for the New England Region.
  - ☐ Show all known VPs on the project site. See GC 23 for vernal pool identification requirements.
- ☐ 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 OHW in inland waters and below the HTL in coastal waters.

- ☐ An Official Species List of federally "listed species or critical habitat" present in the action area (see GC 8).
- ☐ A restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions (see GC 43).

Information that may be required:

- ☐ Photographs of wetland/waterway to be impacted. Photos at low tide are preferred for work in tidal waters.
- ☐ For drawings, sketches, or plans:
  - ☐ The vertical datum for all coastal projects must be in U.S. survey feet and referenced to MLLW and current tidal epochs, with a reference chart showing conversion factor to NAVD88; do not use local datum. See www.nae.usace.army.mil/missions/regulatory >> Forms and Publications >>Vertical Datum - FEMA (Jul 2007);
  - ☐ The horizontal state plane coordinates shall be in U.S. survey feet and based on the appropriate state plane coordinate system.
- ☐ For the construction of a filled area or pile or float-supported platform, the use of, and specific structures to be erected on, the fill or platform.
- ☐ For the discharge of dredged or fill material into waters of the U.S. or the transportation of dredged material for the purpose of disposing of it in ocean waters, the source of the material; the purpose of the discharge, a description of the type, composition and quantity of the material; the method of transportation and disposal of the material; and the location of the disposal site.
- ☐ For the discharge 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. Include either a statement describing how impacts to waters of the U.S. are to be compensated for or a statement explaining why compensatory mitigation should not be required for the proposed impacts.
- ☐ Purpose and need for the proposed activity;
- ☐ Limits and coordinates of any Federal Navigation Project in the vicinity of the project area.
- ☐ Limits and coordinates of any proposed mooring field, reconfiguration zone or aquaculture activity. Provide coordinates for all corners;
- ☐ Schedule of construction/activity;
- ☐ Names and addresses of adjoining property owners;
- ☐ Location and dimensions of adjacent structures;
- ☐ List of authorizations required by other Federal, interstate, state, or local agencies for the work, including all approvals received or denials already made.
- ☐ Identification and description of potential impacts to Essential Fish Habitat (defined at VI. Definitions and Acronyms.
- ☐ Identification of potential discharges of pollutants to waters, including potential impacts to impaired waters, in the project area (see GC 19).
- ☐ Invasive Species Control Plan (see GC 24). For sample control plans, see www.nae.usace.army.mil/missions/regulatory >> Invasive Species.
- ☐ Wildlife Action Plan (WAP) maps. Contact Maine Inland Fisheries & Wildlife (Appendix E) or on line at http://www.maine.gov/ifw/wildlife/conservation/action_plan.html

Information for dredging projects that may be required:

- ☐ 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).
- ☐ Identification and description of any potential impacts to Essential Fish Habitat.
- ☐ Delineation of submerged aquatic vegetation (e.g., eelgrass beds).

Information for aquaculture projects that may be required:

- ☐ Maine Aquaculture guidelines and joint Corps/Maine DMR applications may be found at: www.maine.gov/dmr/aquaculture/index.htm.
- ☐ In addition to the information required above, applications must also include:
  - ☐ Whether canopy predator nets are being used.

Appendix D: Instruction for USFWS IPaC Project Builder/Official Species List

NOTE: These instructions are subject to change by the USFWS. Users should check this GP's Corps webpage for the latest instructions or click here.

In your internet browser go to http://ecos.fws.gov/ipac/

1. Click on get started.

2. Click on enter project location.

3. Search or zoom to your project location. (You can enter an address and then zoom in with your mouse).

4. Define your area. (Select the polygon tool and click around the boundary of your project.) or (Use the draw a line tool for linear projects)

Note: You can change/select the map from Streets to Satellite or Topo in the lower left corner of the map.
5. Click finished drawing then click confirm and select continue.

6. On the next page under Tasks (lower left), select Request an official species list. The pane will open. Select "request official species list" again.

7. A new page will open. Fill in the project information blanks with the project name, brief description, project type, lead agency, and contact information. Be sure to check the box to verify this is a legitimate project. Click on Submit Official Species List Request.

8. You will be sent an e-mail with instructions to complete the request by clicking on the link provided.

9. The site will open Official Species List Request Completed. Under the Maine Ecological Services Field Office address you will see "Official Species List Document". Click on that link and your document will open. Save and or print a copy and **include the entire report with your application**.

Note, you will receive a second e-mail with the same information. You can save the link in the event you need to return to the IPaC site for an updated list.

If a period of time has passed since your initial "Official Species List" identifier number was generated, you may choose to generate an "UPDATED SPECIES LIST". To do this, return to the IPaC homepage at http://ecos.fws.gov/ipac site. In the middle of the page, click the purple "Need an updated species list" link.

On the request an "Updated Official Species List" page, complete the information in the boxes provided. You will need the project specific official consultation code generated and stated on the original official list as well as the email address entered with the original submission.

Click "Request Updated Species List". Print, or save.

Appendix E: Contacts and Tribal Areas of Interest

1. Federal

U.S. Army Corps of Engineers
Maine Project Office
675 Western Avenue #3
Manchester, ME 04351
(207) 623-8367 (phone); (207) 623-8206 (fax)

U.S. Environmental Protection Agency
5 Post Office Square
Suite 100 (OEP05–2)
Boston, MA 02109-3912
(617) 918-1589 (phone)

U.S. Fish and Wildlife Service
Maine Field Office
17 Godfrey Drive, Suite 2
Orono, ME 04473
(207) 866-3344 (phone); (207) 866-3351 (fax)
(Federal endangered species)

National Marine Fisheries Service
Maine Field Office
17 Godfrey Drive Suite 1
Orono, ME 04473
(207) 866-7379 (phone); (207) 866-7342 (fax)
(Federal endangered species)

Federal Emergency Management Agency
99 High St.
Boston, MA 02110
(877) 336-2734 (phone)
(Flood Plain Management)

National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930
(978) 281-9102 (phone); (978) 281-9301 (fax)
(Federal endangered species & EFH)

National Park Service
North Atlantic Region
15 State Street
Boston, MA 02109
(617) 223-5203 (phone)
(Wild and Scenic Rivers)

Commander (dpb)
First Coast Guard District
One South Street - Battery Bldg
New York, NY 10004-1466
(212) 668-7021 (phone); (212) 668-7967 (fax)
(bridge permits)

2. State of Maine

a. Department of Environmental Protection (*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 (phone)

Southern Maine Regional Office
312 Canco Road
Portland, Maine 04103
(201) 822-6300 (phone)

Eastern Maine Regional Office
106 Hogan Road
Bangor, Maine 04401
(207) 941-4570 (phone)

Northern Maine Regional Office
1235 Central Drive - Skyway Park
Presque Isle, Maine 04769
(207) 764-0477 (phone)

b. Department of Agriculture, Conservation and Forestry

i. Maine Land Use Planning Commission (LUPC) (*State permits & Water Quality Certifications in the unorganized areas of the State*)

Augusta Office
22 State House Station
Augusta, Maine 04333-0022
(207) 287-2631 (phone); (207) 287-7439 (fax)

Greenville Regional Office
43 Lakeview Drive
P.O. Box 1107
Greenville, Maine 04441
(207) 695-2466 (phone); (207) 695-2380 (fax)

Rangeley Regional Office
133 Fyfe Road
PO Box 307
West Farmington, ME 04992
(207) 670-7493 (phone); (207) 287-7439 (fax)

Downeast Regional Office
106 Hogan Rd, Suite 8
Dorothea Dix Complex
Bangor, Maine 04401
(207) 941-4052 (phone); (207) 941-4222 (fax)

Ashland Regional Office
45 Radar Road
Ashland, ME 04732-3600
(207) 435-7963 (phone); (207) 435-7184 (fax)

East Millinocket Regional Office
191 Main Street
East Millinocket, ME 04430
(207) 746-2244 (phone); (207) 746-2243 (fax)

ii. Maine Coastal Program

Department of Agriculture, Conservation and Forestry
Bureau of Resource Information and Land Use Planning
17 Elkins Lane {physical address}
State House Station 93
Augusta, Maine 04333-0038
(207) 287-2801 (phone); (207) 287-2353 (fax)
(CZM consistency determinations)

iii. Division of Parks and Public Lands

22 State House Station
Augusta, Maine 04333
(207) 287-3061 (phone); (207) 287-6170 (fax)
(submerged lands leases)

c. Department of Marine Resources

P.O. Box 8
West Boothbay Harbor, Maine 04575
(207) 633-9500 (phone); (207) 624-6024 (fax)
(aquaculture leases)

3. Historic Properties

a. State Historic Preservation Officer (SHPO)

Mr. Kirk F. Mohney, Director

Maine Historic Preservation Commission (MHPC)
65 State House Station
Augusta, Maine 04333-0065
(207) 287-2132 (phone); (207) 287-2335 (fax)
Area of concern: The entire State of Maine

b. Tribal Historic Preservation Officers (THPOs)

Note: The area of concern for each tribe is the entire State of Maine

THPO & Environmental Planner
Houlton Band of Maliseet Indians
88 Bell Road
Littleton, Maine 04730
(207) 532-4273, x215 (phone)
(207) 532-6883 (fax)
envplanner@maliseets.com
ogs1@maliseets.com

THPO
Passamaquoddy Tribe of Indians
Pleasant Point Reservation
P.O. Box 343
Perry, Maine 04667
(207) 853-2600 (phone); (207) 853-6039 (fax)
soctomah@gmail.com

THPO
Passamaquoddy Tribe of Indians
Indian Township Reservation
P.O. Box 301
Princeton, Maine 04668
(207) 796-2301 (phone)
(207) 796-5256 (fax); soctomah@gmail.com

THPO
Aroostook Band of Micmacs
7 Northern Road
Presque Isle, Maine 04769
(207) 764-1972 (phone); (207) 764-7667 (fax)
jpictou@mimca-nsn.gov

THPO
Penobscot Nation
Cultural and Historic Preservation Dept.
12 Wabanaki Way
Indian Island, Maine 04468
(207) 817-7471 (phone)
chris.sockalexis@penobscotnation.org

4. Organizational Websites (Note – Subject to Change):

U.S. Army Corps of Engineers, N.E. District	www.nae.usace.army.mil/missions/regulatory.aspx
U.S. Army Corps of Engineers, Headquarters	See above link>>Useful Links>>Federal Agency Links
U.S. 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
Maine Department of Environmental Protection	www.maine.gov/dep
Maine Department of Agriculture, Conservation and Forestry	www.maine.gov/acf/index.shtml
Maine Land Use Planning Commission	www.maine.gov/doc/lupc/commission/offices.shtml
Maine Department of Marine Resources	www.maine.gov/dmr/index.htm
State of Maine - Aquaculture Guidelines	www.maine.gov/dmr/aquaculture/index.htm

Appendix F: Definitions

Definitions

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

Biodegradable: A material that decomposes into elements found in nature within a reasonably short period of time and will not leave a residue of plastic or a petroleum derivative in the environment after degradation. Examples of biodegradable materials include jute, sisal, cotton, straw, burlap, coconut husk fiber (coir) or excelsior. In contrast, degradable plastics break down into plastic fragments that remain in the environment after degradation.

Boating facilities: These provide, rent or sell mooring space, such as marinas, yacht clubs, boat yards, dockominiums, town facilities, land/home owners, etc. Not classified as boating facilities are piers shared between two abutting properties or town mooring fields that charge an equitable user fee based on the actual costs incurred.

Brushing the Flats: The placement of tree boughs, wooden lath structure, or small-mesh fencing on mudflats, or any bottom disturbance (e.g., discing, plowing, raking, etc.), to enhance recruitment of shellfish.

Buffer Zone: The buffer zone of an FNP is equal to three times the authorized depth of the FNP.

Construction mats: Constructions, swamp and timber mats (herein referred to as "construction mats") are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together. Corduroy roads, which are not considered to be construction mats, are cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures. Like construction mats, they are considered as fill whether they are installed temporarily or permanently

Cumulative effects: See "Direct, secondary, and cumulative effects."

Direct, secondary, and cumulative effects:

Direct Effects: The loss of aquatic ecosystem within the footprint of the discharge of dredged or fill material. Direct effects are caused by the action and occur at the same time and place.

Secondary Effects: These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final Section 404 action is taken by permitting authorities. Some examples of secondary effects on an aquatic ecosystem are a) aquatic areas drained, flooded, fragmented, or mechanically cleared, b) fluctuating water levels in all impoundment and downstream associated with the operation of a dam, c) septic tank leaching and surface runoff from residential or commercial developments on fill, and d) leachate and runoff from a sanitary landfill located in waters of the U.S. See 40 CFR 230.11(h).

Cumulative Effects: The changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual 1) discharges of dredged or fill material, or 2) structures. Although the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems. See 40 CFR 230(g).

Dredging:

Maintenance Dredging: Includes areas and depths previously authorized by the Corps and dredged. The Corps may require proof of authorization. Maintenance dredging typically refers to the routine removal of accumulated sediment from channel beds to maintain the design depths of navigation channels, harbors, marinas, boat launches and port facilities. Routine maintenance dredging is conducted regularly for navigational purposes (typically at least once every ten years) and does not include any expansion of the previously dredged area or depth. The Corps may review a maintenance dredging activity as new dredging if sufficient time has elapsed to allow for the colonization of SAS,

shellfish, etc. The main characteristics of maintenance dredging projects are variable quantities of material; soft, uncompacted soil; contaminant content possible; thin layers of material;occurring in navigation channels and harbors; repetitive activity

New Dredging: Dredging of an area or to a depth that has never been authorized by the Corps or dredged.

Dredged material & discharge of dredged material: These are defined at 323.2(c) and (d). The term dredged material means material that is excavated or dredged from waters of the U.S.

Essential Fish Habitat (EFH): This is broadly defined to include those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.

Fill material & discharge of fill material: These are defined at 323.2(e) and (f). The term fill material is defined as material placed in waters of the U.S. where the material has the effect of either replacing any portion of a water of the U.S. with dry land or changing the bottom elevation of any portion of a water of the U.S.

Federal anchorages, Federal channels and Federal turning basin: Refer to Appendix H for those in Maine

Federal navigation projects (FNPs): These areas are maintained by the Corps; authorized, constructed and maintained on the premise that they will be accessible and available to all on equal terms; and are comprised of Federal Anchorages, Federal Channels and Federal Turning Basins. The buffer zone is equal to three times the authorized depth of a FNP. More information on the following FNPs is provided at www.nae.usace.army.mil/missions/navigation.aspx >> Navigation Projects.

Flume: An open artificial water channel, in the form of a gravity chute, that leads water from a diversion dam or weir completely aside a natural flow. A flume can be used to measure the rate of flow.

Frac out: During normal drilling operations, drilling fluid travels up the borehole into a pit. When the borehole becomes obstructed or the pressure becomes too great inside the borehole, the ground fractures and fluid escapes to the surface.

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Individual Permit: A Department of the Army authorization that is issued following a case-by-case evaluation of a specific structure or work in accordance with the procedures of 33 CFR 322, or a specific project involving the proposed discharge(s) in accordance with the procedures of 33 CFR 323, and in accordance with the procedures of 33 CFR 325 and a determination that the proposed discharge is in the public interest pursuant to 33 CFR 320.

Maintenance: Regulations on maintenance are provided at 33 CFR 323.4. The following definitions are applicable:

Minor deviations: Deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards, which are necessary to make repair, rehabilitation, or replacement are permitted, provided the adverse environ-mental effects resulting from such repair, rehabilitation, or replacement are minimal.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Marina reconfiguration zone: A Corps-authorized area in which permittees may rearrange pile-supported structures and floats without additional authorizations. A reconfiguration zone does not grant exclusive privileges to an area or an increase in structure or float area.

Navigable waters of the U.S.: See Waters of the U.S. below.

Overall project: See "single and complete linear project" below.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.
Permanent impacts: Permanent impacts means waters of the U.S. that are permanently affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent impacts include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. Temporary impacts include waters of the U.S. that are temporarily filled, flooded, excavated, drained or mechanically cleared because of the regulated activity.
Pre-construction notification (PCN): A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by this GP. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of these GPs. A PCN may be voluntarily submitted in cases where PCN is not required and the project proponent wants confirmation that the activity is authorized under this GP.
Secondary effects: See "Direct, secondary, and cumulative effects."
Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the U.S. (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for the purposes of this GP. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.
The overall project, for purposes of this GP, includes all regulated activities that are reasonably related and necessary to accomplish the project purpose.
Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. For non-linear projects, the single and complete project must have independent utility (see definition).
Special aquatic sites: These include inland and saltmarsh wetlands, mud flats, vegetated shallows, sanctuaries and refuges, coral reefs, and riffle and pool complexes. These are defined at 40 CFR 230 Subpart E.
Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.
Temporary impacts: See permanent impacts above.
Utility line: Any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term 'utility line' does not include activities that drain a water of the U.S., such as drainage tile or French drains, but it does apply to pipes conveying drainage from another area.
Vegetated shallows: Permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as eelgrass and widgeon grass (*Rupiamaritima*) in marine systems (doesn't include salt marsh) as well as a number of freshwater species in rivers and lakes. Note: These areas are also commonly referred to as submerged aquatic vegetation (SAV).
Vernal pools (VPs): For the purposes of this GP, VPs are depressional wetland basins that typically go dry in most years and may contain inlets or outlets, typically of intermittent flow. Vernal pools range in both size and depth depending upon landscape position and parent material(s). Pools usually

support one or more of the following obligate indicator species: wood frog, spotted salamander, blue-spotted salamander, marbled salamander, Jefferson's salamander and fairy shrimp. However, they should preclude sustainable populations of predatory fish.

VP areas are:

- Depression (includes the VP depression up to the spring or fall high water mark, and includes any vegetation growing within the depression),
- Envelope (area within 100 feet of the VP depression's edge), and
- Critical terrestrial habitat (area within 100-750 feet of the VP depression's edge).

Note: See footnote to GC 23. The Corps may determine during the PCN review that a waterbody should not be designated as a VP based on available evidence.

Water diversions: Water diversions are activities such as bypass pumping (e.g., "dam and pump") or water withdrawals. Temporary flume pipes, culverts or cofferdams where normal flows are maintained within the stream boundary's confines aren't water diversions. "Normal flows" are defined as no change in flow from pre-project conditions.

Weir: A barrier across a river designed to alter the flow characteristics. In most cases, weirs take the form of a barrier, smaller than most conventional dams, across a river that causes water to pool behind the structure (not unlike a dam) and allows water to flow over the top. Weirs are commonly used to alter the flow regime of the river, prevent flooding, measure discharge and help render a river navigable.

Waters of the U.S. & Waters of the United States (U.S.): The term waters of the U.S. and all other terms relating to the geographic scope of jurisdiction are defined at 33 CFR 328. Also see Section 502(7) of the Federal CWA [33 USC 1352(7)]. Waters of the U.S. include jurisdictional wetlands. Not all waters and wetlands are jurisdictional. Contact the Corps with any questions regarding jurisdiction.

Navigable waters: Refer to 33 CFR 329. These waters include the following federally designated navigable waters in New England. This list represents only those waterbodies for which affirmative determinations have been made; absence from this list should not be taken as an indication that the waterbody is not navigable:

ME: All tidal waters; Kennebec River to Moosehead Lake; Penobscot River to the confluence of the East and West Branch at Medway, Maine; Lake Umbagog within the State of Maine.

Appendix G: 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/missions/regulatory 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.

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 8: 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 8(b)] or to provide information on federally-listed species or habitat [GC 8(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 & procedures).
(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 42: Essential Fish Habitat.

As part of the GP 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 4: Avoidance, Minimization and Compensatory Mitigation.

(a) See www.nae.usace.army.mil/missions/regulatory 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/missions/regulatory, "Mitigation" and then "Maine," or www.maine.gov/dep/blwq/docstand/nrpa/ILF_and_NRCP/index.htm.

6. GCs 24, 15, and 43: Invasive Species.
(a) Information on what are considered "invasive species" is provided in our "Compensatory Mitigation Guidance" document at www.nae.usace.army.mil/missions/regulatory 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/missions/regulatory 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/missions/regulatory under "Invasive Species" and provides policy, goals and objectives.

7. GC 44: 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/missions/regulatory under "Useful Links and Documents" for design and construction guidance.

8. GC 45: Stream and Wetland Crossings.
(a) Projects should be designed and constructed to ensure long-term success using the most recent manual located at www.nae.usace.army.mil/missions/regulatory 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 offer guidance 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/missions/regulatory and then "Stream and River Continuity."

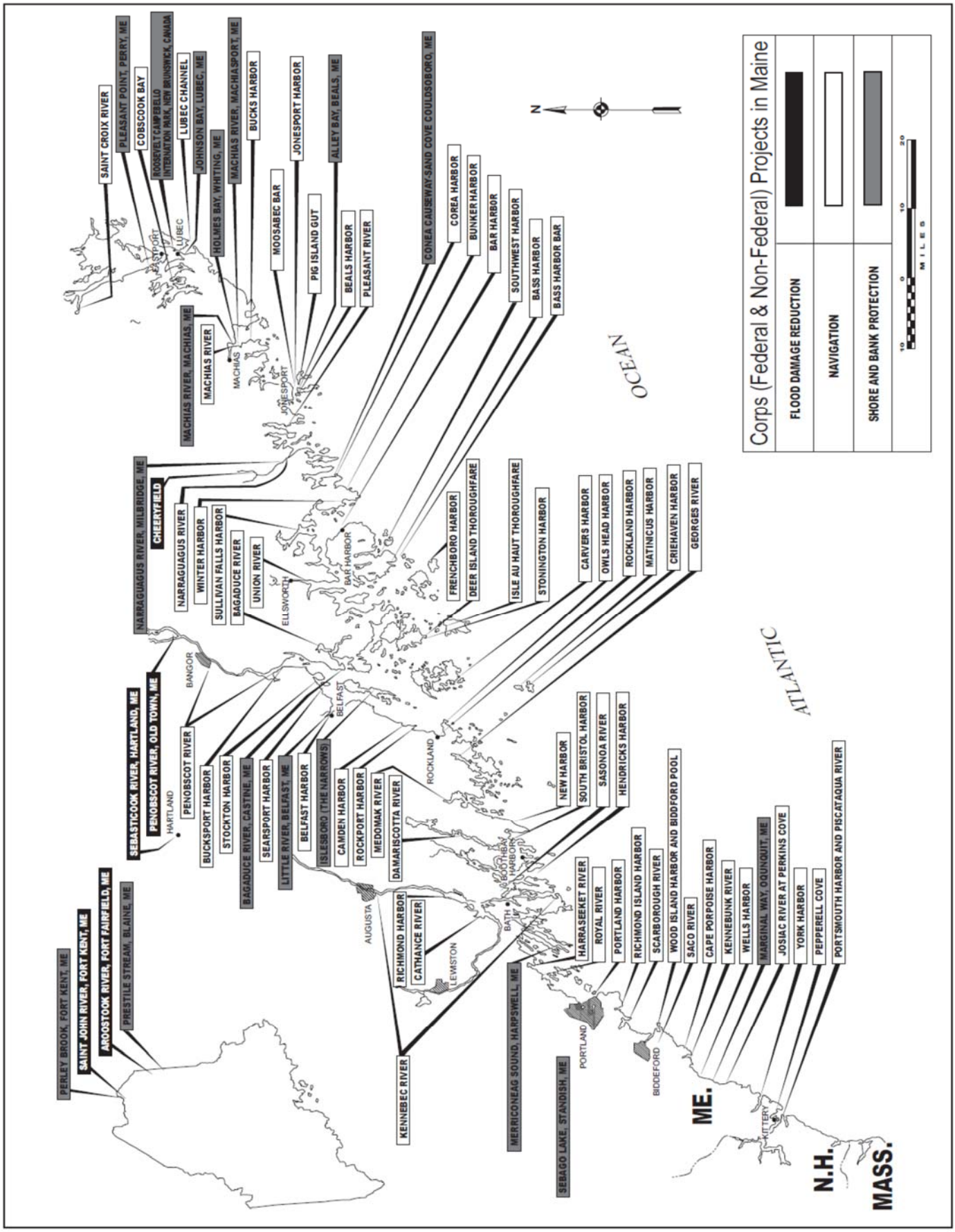
(d) The ME DOT's document "Waterway and Wildlife Crossing Policy and Design Guide for Aquatic Organism, Wildlife Habitat, and Hydrologic Connectivity," 3rd Edition, July 2008, may be used as guidance to evaluate impacts to aquatic, wildlife and surface water resources when designing, constructing, repairing 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 45 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 45(f): The Skidder Bridge Fact Sheet at www.nae.usace.army.mil/missions/regulatory under "Stream and River Continuity" may be a useful temporary span construction method.

9. GC 45: Wetland Crossings. The Maine DEP's crossing standards are at 06-096 DEP, Chapter 305: Permits by Rule, 9 & 10) Crossings (utility lines, pipes and cables). www.maine.gov/dep/blwq/rules/NRPA/2009/305/305_effective_2009.pdf

10. GC 23: 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/missions/regulatory under: 1) "State General Permits" and then "Maine," and 2) "Vernal Pools."

11. GC 29: 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 H: Federal Navigation Projects in Maine



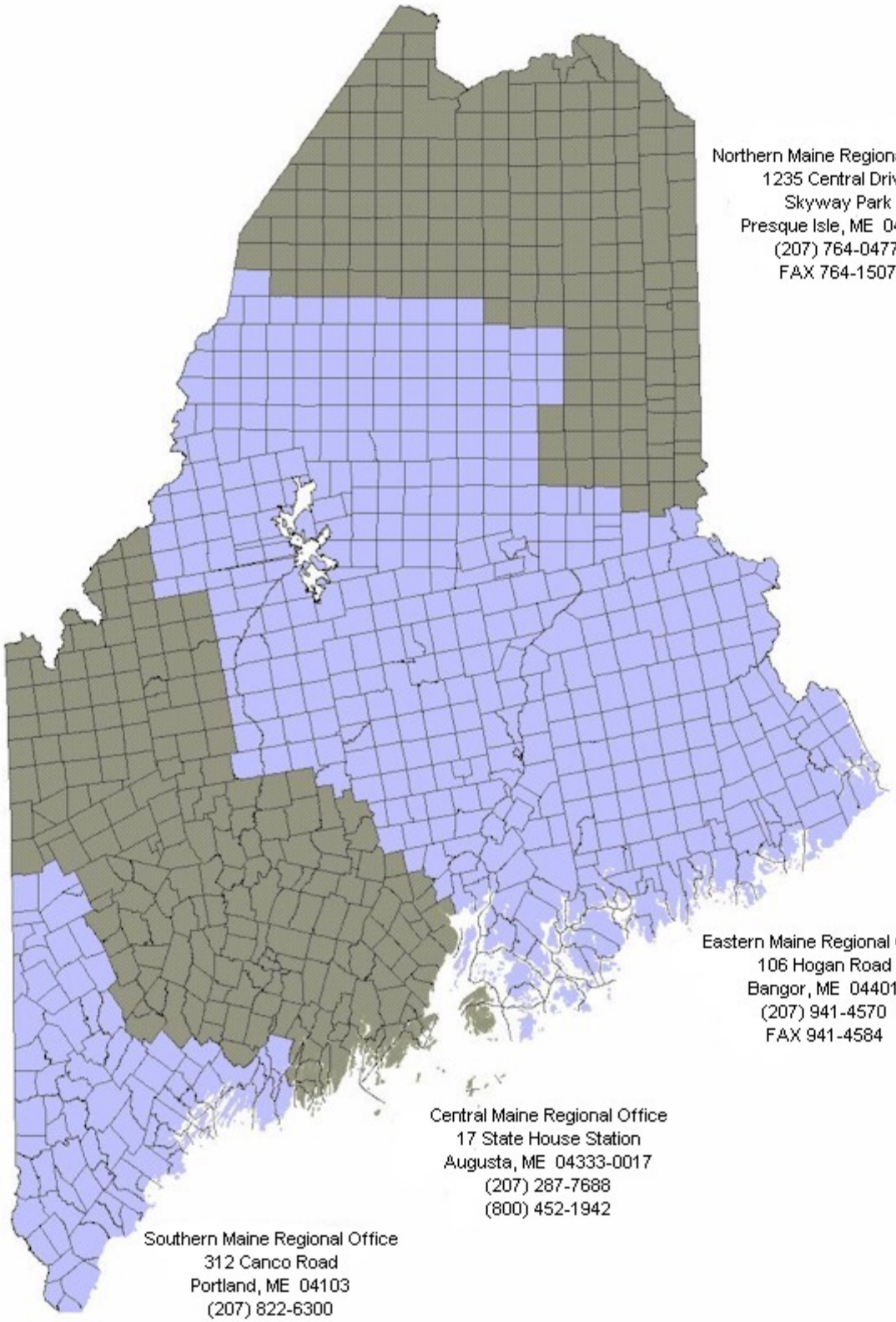
STATE OF MAINE

DEPARTMENT OF ENVIRONMENTAL PROTECTION

General Permit – Construction Activity

Maine Pollutant Discharge Elimination System (MPDES)
With Basic Performance Standards Appendices

Bureau of Land and Water Quality July 21, 2006
No. DEPLW0801


Northern Maine Regional Office
1235 Central Drive
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(207) 764-0477
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Eastern Maine Regional Office
106 Hogan Road
Bangor, ME 04401
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Central Maine Regional Office
17 State House Station
Augusta, ME 04333-0017
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(800) 452-1942
Southern Maine Regional Office
312 Canco Road
Portland, ME 04103
(207) 822-6300
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GENERAL PERMIT -- CONSTRUCTION ACTIVITY
Maine Pollutant Discharge Elimination System (MPDES)

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PART I -- General Permit Coverage

A. General coverage of this permit. This general permit authorizes the direct discharge (point source discharge) of stormwater associated with construction activity to waters of the state other than groundwater, provided that the discharge meets the requirements of this general permit and applicable provisions of Maine's waste discharge and water classification statutes and rules. This general permit also authorizes the direct discharge of stormwater from support activities. "Construction activity" is defined in Part II (page 2).

This general permit is effective July 21, 2006, and authorization to discharge under this general permit expires January 20, 2008. This general permit applies in those parts of the State of Maine for which the Department has received delegated authority under the federal NPDES program. See Part V (page 10), for a list of specific limitations on coverage of this general permit.

B. Authority. A permit is required for the direct or indirect discharge of pollutants to waters of the State.[1] A general permit may be issued for point discharges (direct discharges) of stormwater.[2] A violation of a condition or requirement of a general permit constitutes a violation of Maine's water quality laws and the federal Clean Water Act, and subjects the discharger to penalties under 38 M.R.S.A. § 349, and § 309 of the Clean Water Act. Nothing in this general permit is intended to limit the Department's authority under the waste discharge and water classification statutes or rules. This general permit does not affect requirements under other applicable Maine statutes such as Site Location of Development (Site Law), Stormwater Management, Land Use Regulation Commission (LURC), and Natural Resources Protection (NRPA).

C. Continuation of expired General Permit. If this permit is not reissued, revoked or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and effect. Any permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued permit until the earlier of:

[1] See 38 M.R.S.A. § 413.
[2] See 06-096 CMR 529(2)(a)(2)(i).

1. Reissuance or replacement of this general permit, at which time the permittee must comply with the notice of intent conditions of the new permit to maintain authorization to discharge; or
2. The permittee's submittal of a Notice of Termination; or
3. Issuance of an individual permit for the permittee's discharges; or
4. A formal permit decision by the Director not to reissue this general permit, at which time the permittee must seek coverage under an alternative general permit or individual permit.

This general permit does not prevent a municipality from adopting stricter standards than contained in this general permit, or in state or federal law.

PART II -- Definitions

The following terms have the following meanings when used in this general permit. Additional definitions are found in 06-096 CMR 520 and in the waste discharge and classification laws.

A. Construction activity. "Construction activity" or "activity" means:

1. Construction activity including one acre or more of disturbed area, or activity with less than one acre of total land area that is part of a common plan of development or sale, if the common plan of development or sale will ultimately disturb equal to or greater than one acre; or

2. Any other construction activity designated by the Department based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the State.

Note: Based upon Maine's soils, topography, and extensive water resources, the Department has determined that the great majority of construction activities disturbing one acre or more will result in discernable concentrated flows (direct discharges) to waters of the state.

B. Common plan of development or sale. A "common plan of development or sale" means a subdivision as determined by the Land Use Regulation Commission (LURC), or a subdivision under municipal law as determined by the municipality where the subdivision is located.

C. Department. "Department" means the State of Maine Department of Environmental Protection.

D. Direct discharge. "Direct discharge" or "point source" means any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft, from which pollutants are or may be discharged.[3]

E. Direct watershed of a waterbody or wetland. "Direct watershed of a waterbody or wetland" is the land area that drains, via overland flow, natural or man-made drainage systems, or waterbodies or wetlands, to a given waterbody or wetland without first passing through an upstream waterbody classified as GPA.

F. Disturbed area. "Disturbed area" is clearing, grading and excavation, which means all the land areas that are stripped, graded, grubbed, filled, or excavated at any time during the site preparation or removing vegetation for, or construction of, a project. "Disturbed area" does not include routine

[3] 38 MRSA § 466(5) (definition of "direct discharge") and 06-096 CMR 520 (definition of "point source").

maintenance, but does include redevelopment and new impervious areas. "Routine maintenance" is maintenance performed to maintain the original line and grade, hydraulic capacity, and original purpose of the facility. Paving an impervious gravel surface while maintaining the original line and grade, hydraulic capacity and original purpose of the facility is considered *routine* maintenance. Cutting of trees, without grubbing, stump removal, disturbance or exposure of soil is not considered "disturbed area".

G. Drainageway. "Drainageway" is a natural or man-made channel or course within which and from which surface discharge of water may occur. Drainageways include, but are not limited to rivers, streams and brooks (whether intermittent or perennial), swales, ditches, pipes, culverts, and wetlands with localized discharge of water.

H. Impaired waterbody. An "impaired waterbody" means a waterbody that is not attaining water quality criteria or standards, as determined by the Department and listed in Chapter 502.[4]

1. Best currently available data. The Department may use the best currently available data to determine the status of a waterbody, rather than relying upon the list published in Chapter 502, Direct Watersheds of Lakes Most at Risk from New Development, and Urban Impaired Streams, when the activity itself may have caused or contributed to the impairment, or when the Department reviews an application for a permit such as an individual Waste Discharge license or Site Law permit.

I. Notice of Intent ("NOI"). "Notice of Intent or "NOI" means a notification of intent to seek coverage under this general permit made by the applicant to the Department on a notification form provided by the Department.

J. Notice of Termination ("NOT"). "Notice of Termination" or "NOT" means a notification of intent to end coverage under this general permit on a form provided by the Department.

K. Person. "Person" means an individual, firm, corporation, municipality, quasi-municipal corporation, state agency, federal agency or other legal entity.[5]

L. Stormwater. "Stormwater" means the part of precipitation, including runoff from rain or melting ice and snow that flows across the surface as sheet flow, shallow concentrated flow, or in drainageways. "Stormwater" has the same meaning as "storm water".

M. Stream. "Stream" means a river, stream or brook as defined in the Natural Resources Protection Act at 38 M.R.S.A. § 480-B.

N. Support activities. "Support activities" means support activities associated with a construction activity (e.g. concrete or asphalt batch plants, equipment storage yards, material storage areas, excavated material disposal areas, borrow areas) provided the following requirements are met.

1. **Direct relationship.** The support activity is directly related to a construction site that is required to have waste discharge permit coverage for discharges of storm water associated with construction activity.
2. **Type of operation.** The support activity is not a commercial operation serving multiple unrelated construction projects by different persons, and does not operate beyond the completion of the construction activity at the last construction project it supports.

[4] See 06-096 CMR 502
[5] See 38 M.R.S.A. § 361-A(4).

PART III -- Requirements

Part III describes the requirements for obtaining authorization under this general permit. See Part IV for general submission requirements and procedures related to Notices of Intent (NOIs) and Notices of Termination (NOTs).

A person may not construct or cause to be constructed or operate or cause to be operated or, in the case of a common plan of development or sale (subdivision), sell or lease, offer for sale or lease or cause to be sold or leased any area affected by construction activity without obtaining approval from the Department. A person having an interest in or undertaking an activity on a parcel of land affected by this general permit may not act contrary to this general permit.

A. Construction activity (other than a common plan of development or sale). Construction activity including one acre or more of disturbed area on the parcel, or other construction activity designated by the Department, must meet the following requirements.

1. Submit NOI and NOT.
2. Meet the standards in Appendices A-C of this general permit.
3. Erosion and sedimentation control (ESC) plan development and maintenance. This plan demonstrates how the standards in Appendix A will be met. An ESC plan is required pursuant to the Site Law and this general permit, however additional requirements may apply pursuant to the Site Law. See Part III (D) concerning referencing a plan submitted as part of a Site Law application.

B. Common plan of development or sale. A common plan of development or sale must meet the following requirements.

1. **Site Law, Stormwater, or LURC.** A common plan of development or sale is considered to meet the requirements of this general permit if:

   a. A Site Law, Stormwater (38 M.R.S.A. § 420-D), or LURC permit is required, and the requirements of Part III (A) are met; and
   b. If a Stormwater permit is required, the requirements of Part III(A) are also met on all associated lots in the subdivision, as determined by the Department.

   The Department will assume that one acre of disturbed area will be created per 3 lots (1/3 ac. per lot), unless the person proposing the common plan of development or sale provides information concerning actual disturbed area.

2. **Other.** If the project does not require a Site Law, Stormwater, or LURC permit, and is not located within an area subject to the jurisdiction of LURC, then the project must meet the standards of the Maine Erosion and Sedimentation Control Law. An NOI is not required.

A lot buyer or subsequent transferee within a common plan of development or sale must submit an individual NOI if he or she proposes a construction activity as defined at Part II (A), regardless of whether the developer has filed an NOI.

The standards apply to the lots in the subdivision as well as associated facilities such as roads, pads, and ponds.

Note: The LURC Development Law only applies to areas of the state administered by the Land Use Regulation Commission (LURC). The Maine Site Law (in regard to subdivisions), Erosion and Sedimentation Control Law, and Stormwater Management Law, apply to projects or portions of projects outside the jurisdiction of LURC.

C. Total maximum daily load (TMDL). If the waterbody to which a direct discharge drains is impaired and has an EPA approved TMDL, then the discharge must be consistent with any waste load allocation (WLA) contained in the TMDL and any implementation plan.

D. ESC plan. Material submitted with an application for a Site Law or Stormwater Management Law permit may be referenced to the extent it substantively addresses the standards in Appendix A. If all the standards are not addressed, supplementary material must be provided with the NOI. If an applicant wishes the Department to rely in whole or part on a submission that is part of a Site Law or Stormwater Management Law application, the applicant should submit a letter with the NOI describing the previous submission and the extent to which it should be relied upon, and listing the standards addressed by any supplementary material.

PART IV. Procedure

A. Notice of Intent (NOI). When the applicant submits a notification form, NOI, he or she agrees to comply with the standards and requirements of this general permit. An NOI must be submitted to the Department with the appropriate fee.

1. Processing of NOI. An NOI must be reviewed and approved by the Department prior to beginning construction activity or causing soil disturbance except as provided in Part IV(K).

The NOI is deemed approved 14 calendar days after the Department receives the notification form, unless the Department approves the notification or finds the notification deficient prior to that date. Within the 14 day period, the Department may notify the applicant in writing or through verbal communication that the project is ineligible for coverage under this general permit, or that additional information is needed or further review is required.. If the DEP does not inform the applicant that the notification is unacceptable within this 14-day period, the notification is deemed accepted by the Department and the applicant may proceed to carry out the activity

Activities that require 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. Any NOI and supplementary information required by this subsection should be submitted at the same time as any required Stormwater Management or Site Law application for the activity in order to avoid delays in processing. The NOI may not be filed before these applications. The Department may consolidate application materials with these or other programs. When application materials are consolidated, the review period for the NOI is extended to coincide with the review period of the other program.

2. Submission. Applicants for a Maine CGP must submit the notification form, fee and other information for the Department's review and approval. This information includes a location map, site plan, erosion and sedimentation plan, and photographs of the area to be developed. Also, if the project is located in Essential Habitat, approval from Department of Inland Fisheries and Wildlife will need to be submitted. A landowner or leasehold owner, or his or her authorized representative, must file the NOI using a form provided by the Department. The NOI must contain information specified by the Department that is listed in this subsection. The Department

may require the submission of additional information as necessary. Send the completed NOI form to the DEP office serving the area where the project is located. This general permit contains a map showing the municipalities served by the Department regional offices and the regional office mailing addresses.

a. The legal name, address, telephone number, and any email address of the landowner or leasehold owner.
b. The legal name, address, telephone number, and any email address of the agent or contractor.
c. A narrative describing in detail how to get to and access the parcel and construction activities, and a USGS or similar map with the location marked.
d. A narrative describing the project and its purpose.
e. UTM Northing and UTM Easting (if known)
f. The size of disturbed area proposed.
g. Name of the receiving water(s) or if the discharge is through a municipal separate storm sewer system, the name of the municipal operator of the storm sewer.
h. Signature of applicant (landowner or lessee) or authorized representative with documentation showing authorization. For signatory requirements, see 06-096 CMR 521(5).
i. For any construction activity occurring within an essential habitat or that may violate protection guidelines, written approval of the activity from the Department of Inland Fisheries and Wildlife (IF&W). The applicant must follow any conditions stated in the IF&W approval.[6]

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 (or areas within LURC's jurisdiction) 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. **Location map.** The Notification form must be accompanied by a photocopy of a portion of a 7.5 minute USGS topographic map or a DeLorme Atlas map showing the site's location and approximate property boundaries, if the size of the parcel and scale of the map allows it. A USGS topographic map can be useful for showing the general contour and topography of the project site.

C. Site plan. Submit a scaled plan showing, at a minimum, the locations of structures and roads, the extent of disturbed land, pre-construction site topography, post-construction site topography, on-site and adjacent surface waterbodies, and all erosion and sedimentation control measures to be used on the site. Such measures include, but are not limited to, sedimentation barriers, ditch lining, rip rap, and culvert inlet and outlet designs. Identify retained downgradient buffers, or explain in a narrative why such buffers will not be retained (see Pollution Prevention standard, Appendix A(1)). Identify protected natural resources, such as wetlands, streams, or high water line of ponds or coastal wetlands on the site plan. 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.

An applicant may substitute the following information for surveyed pre-development and post-development site topography on the location plans:

1. the locations of high points on the site,
2. the locations of any ponds or other runoff storage depressions on the site,

[6] A state agency may not license a project that will significantly alter habitat of any species designated as threatened or endangered, or violate protection guidelines, without a determination from IF&W. See 12 M.R.S.A. § 7755-A.

3. the locations and flow direction of any drainage ditches, brooks, or streams,
4. the locations of any catch basin inlets or culvert inlets, and
5. arrows showing the general direction(s) of overland drainage for the site.

D. Erosion and Sedimentation Control plan. In addition to a site plan, an erosion control plan must be included which contains, at a minimum, permanent stabilization measures to be taken (e.g. paving or planting vegetation), installation details of the erosion control measures proposed to be used, seeding and mulching rates, and a construction schedule with the proposed construction dates and timeframe for major earth moving and construction events. **This plan and its details may be included on the site plan instead of being a separate submission.**

An erosion and sedimentation control plan must be designed by a professional who is registered, licensed, or certified in a related land-use field, or by education, training, or experience is knowledgeable in erosion and sedimentation control, or has received specific training in erosion and sedimentation control at a department-sponsored erosion and sedimentation control workshop.

Note: A person who conducts, or causes to be conducted, an activity that involves filling, displacing or exposing soil or other earthen materials shall take measures to prevent unreasonable erosion of soil or sediment beyond the project site or into a protected natural resource as defined in 38 M.R.S.A. § 480-B. Sediment control measures must be in place before the activity begins. Measures must remain in place and functional until the site is permanently stabilized. Adequate and timely temporary and permanent stabilization measures must be taken. The site must be maintained to prevent unreasonable erosion and sedimentation. See 38 M.R.S.A § 420-C (in part). Other or additional standards may apply, under the Natural Resources Protection Act, to a project located in or adjacent to a protected natural resource.

E. Photos. Provide photographs of the project site that show the existing character and topography of the area proposed for development.

F. Notice of Termination (NOT). The permittee shall submit a Notice of Termination (NOT) on a form provided by the Department within 20 days of the completion of permanent stabilization or within 20 days of obtaining coverage under an alternative MEPDES permit. If the property is transferred and construction activity is ongoing, the permittee is not required to file an NOT if the new owner or lessee files an NOI to continue authorization under this general permit for a continuing discharge.

1. **Common plan of development or sale.** A person who has filed an NOI for a common plan of development or sale shall file an NOT as follows.

   a. For areas of the site over which the developer has control, the NOT must be filed after permanent stabilization has been completed.-

   b. For areas of the site over which the developer does not have control (ex. lots sold in an undeveloped or partially undeveloped state), the NOT must be filed after (i) temporary stabilization including perimeter controls for individual lots have been completed if the developer has done prep work (stripping or grading) on the lots, (ii) the developer has informed the lot buyers of the requirements of this general permit, and (iii) the developer has provided the buyers with copies of any erosion control plan, or portion of a plan applicable to the lots, required to be certified or provided to the Department under the requirements of this general permit.

A lot buyer within a common plan of development or sale is required to meet the standards of this general permit, except that residential lot buyers are not required to maintain inspection logs as provided in Appendix A(2).

2. **Timing.** A permittee's authorization to discharge under this permit terminates at midnight on the day the NOT is signed.

3. **Submission.** The NOT must include information specified by the Department, including the following:

   a. The legal name, address, telephone number, and any email address of the landowner or leasehold owner.
   b. The legal name, address, telephone number, of the agent or contractor.
   c. Photographs showing the completed project and the affected area. Exception: a person filing an NOT for a common plan of development is not required to include photographs for disturbed areas created by lot buyers or lessees.
   d. Signature of the permittee or authorized person together with documentation demonstrating authorization. If documentation has been previously submitted and is still current, it may be referenced.

G. Mail/copy. The notification forms must be sent to the DEP by certified mail (return receipt requested) or other service providing a record of DEP's receipt of the item to the sender, or hand delivered to the DEP and date stamped by the Department. The applicant must keep a copy of the notification forms and all materials provided to the Department.

H. Retention of records

1. **Documents.** The permittee shall retain copies of the ESC plan and any forms, submissions, reports, or other materials required by this general permit for a period of at least three years from the completion of permanent stabilization. This period may be extended by request of the Department.

2. **Accessibility.** Employees and agents of the Department may enter any property at reasonable hours in order to determine compliance.[7] The permittee shall retain a copy of the ESC plan and this general permit at the construction site or other location accessible to the Department, local government officials, and any operator of a municipal separate stormwater sewer receiving discharges from the site, from project initiation to permanent stabilization. The permittee shall ensure that a copy of the ESC plan and this general permit are available for the use of any contractors on the site undertaking work regulated by this general permit.

I. Changes in the activity or owner/lessee. Coverage under this general permit will be continued provided there are no changes in the discharge as described in the NOI and associated submissions. If any changes are proposed in the activity, the person having filed the NOI must notify the Department through the submission of updated information in writing, including submitting or obtaining certification for any revisions to an ESC plan required in Part III.

The updated information must be submitted with a new NOI if the permittee proposes to expand or relocate disturbed area of one acre or more beyond what was indicated in the original NOI, or to

[7] See 38 M.R.S.A. § 347-C(in part).

change the waterbody to which the stormwater will be discharged. Information concerning other changes may be submitted in a letter.

If the owner or lessee of the land changes, the new owner or lessee must file an NOI if he or she wishes to continue coverage under this general permit. Materials submitted with an NOI by a prior owner or lessee may be referenced if they are still current. Exception: a lot buyer or subsequent transferee of a lot within a common plan of development or sale is not required to file an NOI unless he or she proposes a construction activity as defined in Part II(A).

J. Request to be excluded. A person may request that an activity be excluded from coverage under this general permit and apply for an individual waste discharge permit pursuant to the Department's rules. When an individual permit is issued to a person otherwise subject to this general permit, the applicability of this general permit to that person is automatically terminated on the effective date of the individual permit.

K. Effect of prior approvals.

1. Construction activity including one acre or more of disturbed area. This subsection applies for purposes of determining jurisdiction under the "one acre" threshold only.

a. Persons disturbing less than 5 acres. A person with on-going construction activity as of July 21, 2006, who received authorization to discharge under a prior MCGP(s) and whose activity includes less than 5 acres of disturbed area and, that have not submitted a NOT do not have to submit a new NOI to obtain coverage under this general permit and are authorized under this general permit provided that the activity meets the standards of this general permit.

b. Persons disturbing 5 or more acres. A person with on-going construction activity as of July 21, 2006, who received authorization to discharge for the activity under a prior MCGP(s) and have or will disturb five or more acres shall submit a new notice of intent (NOI) prior to or on October 20, 2006. The new NOI may reference information in prior NOI submissions to the extent it is still current.

2. Common plan of development or sale. This subsection applies for purposes of determining jurisdiction under the "common plan of development or sale" threshold only.

A common plan of development or sale (subdivision) is not required to meet the requirements of this general permit if it received approval from LURC or the municipality where it is located before March 10, 2003.

a. If a subdivision that received municipal or LURC approval prior to March 10, 2003, is modified on or after the effective date of this permit so as to add three or more subdivision lots as determined by LURC or the municipality, this general permit applies to those lots and their associated facilities as provided in Part III.

b. If a subdivision receives approval on or after March 10, 2003, then this general permit does not apply to lots transferred before March 10, 2003.

Note: A person subdividing land must still file an NOI if he or she will undertake construction activity on the parcel that includes one or more acres of disturbed area, as provided in Part III(A). Examples of such activity would be road or pad construction, or stripping and grading. A single NOI may be filed for both the common plan of development or sale and this disturbed area.

PART V -- Limitations on Coverage

A. Individual permit or other general permit. This general permit does not authorize a stormwater discharge associated with construction activity that requires an individual waste discharge permit or is required to obtain coverage under another waste discharge general permit. See Part VI(A) for information on related waste discharge permits.

The Department may require any person with a discharge authorized by this general permit to apply for and obtain an individual permit.[8] When the DEP notifies an applicant than an individual permit is required, no work may be begun or continued unless and until the individual permit is obtained. Any interested person may petition the Department to take action under this paragraph. Examples of when an individual waste discharge permit may be required are specified in rule.[9]

B. Compliance with this general permit. This general permit does not authorize a stormwater discharge that is not in compliance with the requirements of this general permit. If the Department determines that the standards of this general permit have not been met, the Department shall notify the person and may:

1. Authorize coverage under this general permit after appropriate controls and implementation procedures designed to bring the discharge into compliance with this general permit and water quality standards have been implemented as determined by the Department;

2. Require an individual waste discharge permit; or

3. Inform the person that the discharge is prohibited.

Compliance with this subparagraph does not preclude any enforcement activity under Maine law for an underlying violation.

C. Non-stormwater. This general permit does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Appendix C(6).

D. Total maximum daily load (TMDL). This general permit does not authorize a direct discharge that is inconsistent with any EPA approved TMDL for the waterbody to which the direct discharge drains as provided in Part III(C).

E. Discharge of hazardous substances, chemicals, or oil. This general permit does not authorize the discharge of hazardous substances, chemicals, or oil resulting from an on-site spill.

F. Violation of water quality standards. This general permit does not authorize a discharge that may cause or contribute to a violation of a water quality standard.

G. Related laws. This general permit does not authorize stormwater discharges that are not in conformance with the terms and conditions of permits issued under Site Location of, 38 M.R.S.A. §§ 481-490; Stormwater Management, 38 M.R.S.A. § 420-D; Natural Resources Protection, 38 M.R.S.A. §§ 480-A - 480-Z; or the Land Use Regulation Commission §§ 481 et. seq.. This general permit does not authorize stormwater discharges that are not in conformance with the Maine Erosion and Sedimentation Control Law, 38 M.R.S.A. § 420-C.

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[8] See 06-096 CMR 529(2)(B)(3).
[9] 06-096 CMR 529(2)(b)(3)

H. Post-construction discharges. This general permit does not authorize stormwater discharges after the completion of permanent stabilization.

I. Metallic mineral mining or advanced exploration. This general permit does not authorize discharges from metallic mineral mining or advanced exploration. Stormwater and erosion and sedimentation standards related to construction are specified in the Site Location of Development permit and LURC permit and, if required, an individual waste discharge permit.

J. Exemptions. Certain exemptions apply and are specified in the Maine Waste Discharge Law. An exemption in a Maine law other than the Maine Waste Discharge Law, such as the Site Law or Maine Stormwater Management Law, does not create an exemption to the Maine Waste Discharge Law or the requirements of this general permit. Each law has its own set of statutory exemptions.

K. Reopener. This general permit may be modified or reopened as provided in 38 M.R.S.A. § 414-A(5).

Part VI -- Relationship to other programs

An activity may include "construction activity" and also be regulated under other programs.

A. Related waste discharge permits

1. **Multi-sector.** A stormwater discharge requiring approval as an industrial activity other than 06-096 CMR 521(b)(14)(x) is not authorized under this general permit.

2. **Waste discharge permit (surface water).** A waste discharge permit may be required for activities such as combined sewer overflows (CSOs), spray irrigation, process water treatment systems, metallic mine drainage, and other discharges inadequately covered by this general permit, as determined by the Department.

3. **Waste discharge permit (groundwater).** A waste discharge permit may be required for the discharge of stormwater through any well or wells, including drywells and subsurface fluid distribution systems. For complete requirements, see 06-096 CMR 543.

   A "subsurface fluid distribution system" is an assemblage of perforated pipes, drain tiles, or similar mechanisms intended to distribute fluids below the surface of the ground. A "well" is a bored, drilled, or driven shaft the depth of which is greater than the largest surface dimension, whether the shaft is typically dry or contains liquid; or a dug hole the depth of which is greater than the largest surface dimension; or a subsurface fluid distribution system. "Well injection" means the subsurface discharge of fluids into or through a well.

B. Quarry or an excavation for borrow, clay, topsoil, or silt. Clearing, grading or excavation activities conducted as part of the exploration and construction phase of a mineral mining operation must meet the requirements of this general permit, if they will result in the direct discharge of stormwater to waters of the state other than groundwater, will disturb one or more acres of land, and occur on or after March 10, 2003. These requirements do not apply to an area that is internally drained. Construction activity includes the building of site access roads and removal of overburden and waste rock to expose mineable materials. If the activity must meet the requirements of this general permit, the following exceptions apply.

1. **Stabilization deadlines.** The 14 day time limit for temporary stabilization in Appendix A(3), and the one-year time limit for permanent stabilization in Appendix A(5) do not apply.

2. **If under the Gravel Pit or Quarry Program -- may need to do an ESC plan.** If the clearing, grading, or excavation activity subject to this general permit is also required to meet the Performance Standards for Excavations for Borrow, Clay, Topsoil or Silt,[10] or Performance Standards for Quarries[11], then the operator does not have to meet the requirements specified in Part III of this general permit, except for the ESC plan requirements in Part III(A)(2).

In some cases, an area that is not internally drained initially may become internally drained during construction. For an area that has become internally drained, it is not necessary to undertake stabilization as otherwise required under this general permit before filing the NOT.

C. Other programs such as Site Law, Stormwater, and Waste. The Department may combine application requirements for this general permit and other programs administered by the Department. Other programs may include facilities and projects regulated pursuant to programs such as 38 M.R.S.A. § 1310-N (Solid waste facility licenses), 1319-R (facility siting), 1319-X (criteria for development of waste oil facilities and biomedical facilities), 38 M.R.S.A. § 483-A (Site Location), 38 M.R.S.A. 420-C (Stormwater Management), and 12 M.R.S.A. § 685-A (LURC). In case of a conflict between the standards in Appendix A, B, and C and those adopted pursuant to any of these laws, the stricter standard applies, as determined by the Department. The review period for the NOI may be extended as provided in Part IV(A)(1)(b). The Department may waive the fee required with the NOI pursuant to this general permit for certain combined applications. Completing a stormwater Permit By Rule notification meets the requirements of this general permit.

D. Silvicultural activities. Authorization under this general permit is not required for non-point silvicultural activities as provided in 06-096 CMR 521(10).

E. Maine Department of Transportation. Construction activities conducted by the Maine Department of Transportation (MDOT) or the Maine Turnpike Authority (MTA) pursuant to a Memorandum of Agreement between the Department, and MDOT and MTA, are authorized under this general permit within the limits of coverage specified in this general permit. MDOT and MTA are considered qualifying state programs as provided in 40 CFR 122.44(s).

PART VII -- Standard Conditions

A. General restrictions. A discharge covered by a General Permit may not:

1. Be to a body of water classified as Class GPA, AA, A or SA;[12]
2. Be to a body of water having a drainage area of less than 10 square miles;
3. Contain any pollutant, including toxic substances, in quantities or concentrations, which may cause or contribute to any adverse impact on the receiving water;

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[10] 38 M.R.S.A. §§ 490-A et. seq.
[11] 38 M.R.S.A. §§ 490-W et. seq.
[12] This standard condition is required by 06-096 CMR 529(3), effective January 12, 2001. However, note that 38 M.R.S.A. 465-A(1)(C), 465(1)(C) allow discharge of stormwater to GPA, AA and SA waters if the discharge is in compliance with state and local requirements. For requirements applicable to discharges to Class A waters, see 38 MRSA 465(2)(C). The Department is proposing emergency legislation to allow certain stormwater discharges to Class A waters and to watersheds of less than 10 square miles. The statutory provisions control for purposes of this general permit.

4. Be to a receiving water which is not meeting its classification standard for any characteristic which may be affected by the discharge; or

5. Impart color, taste, turbidity, radioactivity, settleable materials, floating substances or other properties that cause the receiving water to be unsuitable for the designated uses ascribed to its classification.

B. Removed substances. Pollutants removed or resulting from the treatment of wastewaters must be disposed of in a manner approved by the Department.

C. Monitoring requirement. The Department may require monitoring of an individual discharge as may be reasonably necessary in order to characterize the nature, volume or other attributes of that discharge or its sources.

D. Other information. When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the Notice of Intent or in any other report to the Department, he or she shall promptly submit such facts or information.

E. Other applicable conditions. The conditions in 06-096 CMR 523(2) also apply to discharges pursuant to this general permit[13] and are incorporated herein as if fully set forth. These conditions address areas such as: duty to comply; need to reduce or halt activity not a defense; duty to mitigate; permit actions; property rights; duty to provide information; and inspection and entry.

F. Duty to reapply. If the permittee wishes to continue an activity regulated by this general permit after the expiration date of this general permit, the permittee must apply for and obtain a new permit.

G. Severability. The conditions of this general permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

[13] See 06-096 CMR 529(3)(i).

APPENDICES -- BASIC PERFORMANCE STANDARDS

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APPENDIX A. Erosion and sedimentation control

A person who conducts, or causes to be conducted, an activity that involves filling, displacing or exposing soil or other earthen materials shall take measures to prevent unreasonable erosion of soil or sediment beyond the project site or into a protected natural resource as defined in 38 MRSA § 480-B. Erosion control measures must be in place before the activity begins. Measures must remain in place and functional until the site is permanently stabilized. Adequate and timely temporary and permanent stabilization measures must be taken.

NOTE: The site must be maintained to prevent unreasonable erosion and sedimentation. See 38 M.R.S.A § 420-C (in part). A license is required for any stormwater discharge that the department "determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the State". 06-096 CMR 521(9)(a)(1)(v)(in part).

(1) Pollution prevention. Minimize disturbed areas and protect natural downgradient buffer areas to the extent practicable. The discharge may not result in erosion of any open drainage channels, swales, upland, or coastal or freshwater wetlands.

Note: Buffers improve water quality by helping to filter pollutants in run-off both during and after construction. Minimizing disturbed areas through phasing limits the amount of exposed soil on the site through retention of natural cover and by retiring areas as permanently stabilized. Less exposed soil results in fewer erosion controls to install and maintain. If work within an area is not anticipated to begin within two weeks time, consider leaving the area in its naturally existing cover.

(2) Sediment barriers. Prior to construction, properly install sediment barriers at the edge of any downgradient disturbed area and adjacent to any drainage channels within the disturbed area. Maintain the sediment barriers until the disturbed area is permanently stabilized.

(3) Temporary stabilization. Stabilize with mulch, or other non-erodable cover any exposed soils that will not be worked for more than 7 days. Stabilize areas within 75 feet of a wetland or waterbody within 48 hours of the initial disturbance of the soil or prior to any storm event, whichever comes first.

NOTE: For guidance on erosion and sedimentation controls, consult *the Maine Erosion and Sediment Control Handbook for Construction -- Best Management Practices* or *the Maine Erosion and Sedimentation Control Best Management Practices*.

(4) Removal of temporary measures. Remove any temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained. Remove any accumulated sediments and stabilize.

NOTE: It is recommended that silt fence be removed by cutting the fence materials at ground level so as to avoid additional soil disturbance.

(5) Permanent stabilization. If the area will not be worked for more than one year or has been brought to final grade, then permanently stabilize the area within 7 days by planting vegetation, seeding, sod, or through the use of permanent mulch, or riprap, or road sub-base. If using vegetation for stabilization, select the proper vegetation for the light, moisture, and soil conditions; amend areas of disturbed subsoils with topsoil, compost, or fertilizers; protect seeded areas with mulch or, if necessary, erosion control blankets; and schedule sodding, planting, and seeding so to avoid die-off from summer drought and fall frosts. 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. One or more of the following may apply to a particular site.

(a) Seeded areas. For seeded areas, permanent stabilization means a 90% cover of the disturbed area with mature, healthy plants with no evidence of washing or rilling of the topsoil.

(b) Sodded areas. For sodded areas, permanent stabilization means the complete binding of the sod roots into the underlying soil with no slumping of the sod or die-off.

(c) Permanent Mulch. For mulched areas, permanent mulching means total coverage of the exposed area with an approved mulch material. Erosion Control Mix may be used as mulch for permanent stabilization according to the approved application rates and limitations.

(d) Riprap. For areas stabilized with riprap, permanent stabilization means that slopes stabilized with riprap have an appropriate backing of a well-graded gravel or approved geotextile to prevent soil movement from behind the riprap. Stone must be sized appropriately. It is recommended that angular stone be used.

(e) Agricultural use. For construction projects on land used for agricultural purposes (e.g., pipelines across crop land), permanent stabilization may be accomplished by returning the disturbed land to agricultural use.

(f) Paved areas. For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed.

(g) Ditches, channels, and swales. For open channels, permanent stabilization means the channel is stabilized with mature vegetation at least three inches in height, with well-graded riprap lining, or with another non-erosive lining capable of withstanding the anticipated flow velocities and flow depths without reliance on check dams to slow flow. There must be no evidence of slumping of the lining, undercutting of the banks, or down-cutting of the channel.

(6) Winter Construction. "Winter construction" is construction activity performed during the period from November 1 through April 15. If areas within the construction activity are not stabilized with temporary or permanent measures outlined above by November 15, then the site must be protected with additional stabilization measures that are specific to winter conditions. No more than one acre of the site may be without stabilization at one time.

(a) Site Stabilization. For winter stabilization, hay mulch is applied at twice the standard temporary stabilization rate. At the end of each construction day, areas that have been brought to final grade must be stabilized. Mulch may not be spread on top of snow.

(b) Sediment Barriers. All areas within 75 feet of a protected natural resource must be protected with a double row of sediment barriers.

(c) Ditch. All vegetated ditch lines that have not been stabilized by November 1, or will be worked during the winter construction period, must be stabilized with an appropriate stone lining backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the department.

(d) Slopes. Mulch netting must be used to anchor mulch on all slopes greater than 8% unless erosion control blankets or erosion control mix is being used on these slopes.

NOTE: For guidance on winter construction standards, see the "Maine Erosion and Sediment Control BMPs", Maine Department of Environmental Protection.

(7) Stormwater channels. Ditches, swales, and other open stormwater channels must be designed, constructed, and stabilized using measures that achieve long-term erosion control. Ditches, swales and other open stormwater channels must be sized to handle, at a minimum, the expected volume run-off. Each channel should be constructed in sections so that the section's grading, shaping, and installation of the permanent lining can be completed the same day. If the channel's final grading or lining installation must be delayed, then diversion berms must be used to divert stormwater away from the channel, properly-spaced check dams must be installed in the channel to slow the water velocity, and a temporary lining installed along the channel to prevent scouring. Permanent stabilization for channels is addressed under Appendix A(5)(g) above.

NOTE: (1) The channel should receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side slopes. (2) When the watershed draining to a ditch or swale is less than 1 acre of total drainage and less than ¼ acre of impervious area, diversion of runoff to adjacent wooded or otherwise vegetated buffer areas is encouraged where the opportunity exists.

(8) Roads. Gravel and paved roads must be designed and constructed with crowns or other measures, such as water bars, to ensure that stormwater is delivered immediately to adjacent stable ditches, vegetated buffer areas, catch basin inlets, or street gutters.

NOTE: (1) Gravel and paved roads should be maintained so that they continue to conform to this standard in order to prevent erosion problems. (2) The department recommends that impervious surfaces, including roads, be designed and constructed so that stormwater is distributed in sheet flow to natural vegetated buffer areas wherever such areas are available. Road ditches should be designed so that stormwater is frequently (at least every 100 to 200 feet) discharged via ditch turnouts in sheet flow to adjacent natural buffer areas wherever possible.

(9) Culverts. Culverts must be sized to avoid unintended flooding of upstream areas or frequent overtopping of roadways. Culvert inlets must be protected with appropriate materials for the

expected entrance velocity, and protection must extend at least as high as the expected maximum elevation of storage behind the culvert. Culvert outlet design must incorporate measures, such as aprons or plunge pools, to prevent scour of the stream channel. Outlet protection measures must be designed to stay within the channel limits. The design must take account of tailwater depth.

(10) Parking areas. Parking areas must be constructed to ensure runoff is delivered to adjacent swales, catch basins, curb gutters, or buffer areas without eroding areas downslope. The parking area's subbase compaction and grading must be done to ensure runoff is evenly distributed to adjacent buffers or side slopes. Catch basins must be located and set to provide enough storage depth at the inlet so to allow inflow of peak runoff rates without by-pass of runoff to other areas.

(11) Additional requirements. Additional requirements may be applied on a site-specific basis**.**

APPENDIX B. Inspection and maintenance

(1) Inspection and maintenance. Inspect disturbed and impervious areas, and erosion and stormwater control measures, areas used for storage that are exposed to precipitation, and locations where vehicles enter or exit the site. Inspect these areas at least once a week as well as and before and after a storm event, and prior to completion of permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards in this permit and any departmental companion document to this permit, must conduct the inspection. This person must be identified in the inspection log. If best management practices (BMPs) need to be modified or if additional BMPs are necessary, implementation must be completed within 7 calendar days and prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.

(2) Inspection log (report). A log (report) must be kept summarizing the scope of the inspection, name(s) and qualifications of the personnel making the inspection, the date(s) of the inspection, and major observations relating to operation of erosion and sedimentation controls and pollution prevention measures. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to department staff and a copy must be provided upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

APPENDIX C. Housekeeping

These performance standards apply to all sites.

(1) Spill prevention. Controls must be used to prevent pollutants from construction and waste materials stored on-site, including storage practices to minimize exposure of the materials to

stormwater, and appropriate spill prevention, containment, and response planning and implementation.

(2) Groundwater protection. During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.

NOTE: Lack of appropriate pollutant removal best management practices (BMPs) may result in violations of the groundwater quality standard established by 38 M.R.S.A. §465-C(1). Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

(3) Fugitive sediment and dust. Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.

Examples of BMPS -- Operations during wet months, that experience tracking of mud off the construction site onto public roads, should provide for sweeping of road areas at least once a week and prior to significant storm events. Where chronic mud tracking occurs, a stabilized construction entrance should be provided. Operations during dry months, that experience fugitive dust problems, should wet down the access roads once a week or more frequently if needed.

NOTE: Dewatering a stream without a permit from the department violates state water quality standards and the Natural Resources Protection Act.

(4) Debris and other materials. Litter, construction debris, and construction chemicals exposed to stormwater must be prevented from becoming a pollutant source.

NOTE: To prevent these materials from becoming a source of pollutants, construction activities related to a project may be required to comply with applicable provision of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules; Maine hazardous waste management rules; Maine oil conveyance and storage rules; and Maine pesticide requirements.

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(5) Trench or foundation de-watering. Trench de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site.

NOTE: For guidance on de-watering controls, consult the Maine Erosion and Sediment Control BMPs", Maine Department of Environmental Protection."

(6) Non-stormwater discharges. Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

(i) Discharges from firefighting activity;
(ii) Fire hydrant flushings;[1]
(iii) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarraige and transmission washing is prohibited);
(iv) Dust control runoff in accordance with permit conditions and Appendix (C)(3);
(v) Routine external building washdown, not including surface paint removal, that does not involve detergents;
(vi) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
(vii) Uncontaminated air conditioning or compressor condensate;
(viii) Uncontaminated groundwater or spring water;
(ix) Foundation or footer drain-water where flows are not contaminated; and
(x) Uncontaminated excavation dewatering (see requirements in Appendix C(5)).
(vi) Potable water sources including waterline flushings.[2]

Allowable non-stormwater discharges cannot be authorized under this permit unless they are directly related to and originate from a construction site or dedicated support activity (e.g., a pressure washing company cannot broadly use this general permit for their business operations, because general vehicle washing is not associated with a construction site). It is not necessary to list these sources of non-stormwater in the NOI.

[1] This non-stormwater discharge is authorized under this general permit until the Department issues a separate general permit containing requirements specific to this type of discharge, which would replace this authorization.
[2] See previous footnote.