Updated 8/01/07

STATE PROJECT

August 01, 2007
Supersedes August 4, 2004

BIDDING INSTRUCTIONS

FOR ALL PROJECTS:

1. Use pen and ink to complete all paper Bids.

2. As a minimum, the following must be received prior to the time of Bid opening:

   For a Paper Bid:
   a) a copy of the Notice to Contractors, b) the completed Acknowledgement of Bid Amendments form, c) the completed Schedule of Items, d) two copies of the completed and signed Contract Offer, Agreement & Award form, e) a Bid Guaranty, and f) any other certifications or Bid requirements listed in the Bid Documents as due by Bid opening.

   For an Electronic Bid:
   a) a completed Bid using Expedite® software and submitted via the Bid Express™ web-based service, b) a Bid Guaranty (as described below) or a faxed copy of a Bid Bond (with original to be delivered within 72 hours), and c) any other certifications or Bid requirements listed in the Bid Documents as due by Bid opening.

3. Include prices for all required items in the Schedule of Items. ("Zero is not considered a Bid price.")

4. Include a Bid Guaranty. Acceptable forms are:

   a. a properly completed and signed Bid Bond on the Department's prescribed form (or on a form that does not contain any significant variations from the Department's form as determined by the Department) for 5% of the Bid Amount or

   b. an Official Bank Check, Cashier's Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors.

5. If a paper Bid is to be sent, Federal Express overnight delivery is suggested as the package is delivered directly to the DOT Headquarters Building located at 16 Child Street in Augusta. Other means, such as U.S. Postal Service's Express Mail has proven not to be reliable.

IN ADDITION, FOR FEDERAL AID PROJECTS:

6. Complete the DBE Proposed Utilization form in the proper amounts, and deliver to the Civil Rights Office, or fax to (207)624-3431 by 4:30 PM on bid opening day.

If you need further information regarding Bid preparation, call the DOT Contracts Section at (207)624-3410.

For complete bidding requirements, refer to Section 102 of the Maine Department of Transportation, Standard Specifications, Revision of December 2002.

January 30, 2004
Supercedes February 11, 2003

NOTICE

The Maine Department of Transportation is attempting to improve the way Bid Amendments/Addendums are handled, and allow for an electronic downloading of bid packages from our website, while continuing to maintain a planholders list.

Prospective bidders, subcontractors or suppliers who wish to download a copy of the bid package and receive a courtesy notification of project specific bid amendments, must provide an email address to Diane Barnes or Mike Babb at the MDOT Contracts mailbox at: MDOT.contracts@maine.gov. Each bid package will require a separate request.

Additionally, interested parties will be responsible for reviewing and retrieving the Bid Amendments from our web site, and acknowledging receipt and incorporating those Bid Amendments in their bids using the Acknowledgement of Bid Amendment Form.

The downloading of bid packages from the MDOT website is not the same as providing an electronic bid to the Department. Electronic bids must be submitted via http://www.BIDX.com. For information on electronic bidding contact Larry Childs at Larry.Childs@maine.gov.

NOTICE

For security and other reasons, all Bid Packages which are mailed, shall be provided in double (one envelope inside the other) envelopes. The *Inner Envelope* shall have the following information provided on it:

Bid Enclosed - Do Not Open
PIN:
Town:
Date of Bid Opening:
Name of Contractor with mailing address and telephone number:

In Addition to the usual address information, the *Outer Envelope* should have written or typed on it:

Double Envelope: Bid Enclosed
PIN:
Town:
Date of Bid Opening:
Name of Contractor:
This should not be much of a change for those of you who use Federal Express or similar services.

Hand-carried Bids may be in one envelope as before, and should be marked with the following infrormation:

Bid Enclosed: Do Not Open
PIN:
Town:
Name of Contractor:

STATE OF MAINE DEPARTMENT OF TRANSPORTATION

Bid Guaranty-Bid Bond Form

KNOW ALL MEN BY THESE PRESENTS THAT_____

_____, of the City/Town of _____and State of_____

as Principal, and _____as Surety, a

Corporation duly organized under the laws of the State of_____and having a usual place of

Business in _____and hereby held and firmly bound unto the Treasurer of

the State of Maine in the sum of_____,for payment which Principal and Surety bind

themselves, their heirs, executers, administrators, successors and assigns, jointly and severally.

The condition of this obligation is that the Principal has submitted to the Maine Department of Transportation, hereafter Department, a certain bid, attached hereto and incorporated as a part herein, to enter into a written contract for the construction of _____

_____

_____and if the Department shall accept said bid and the Principal shall execute and deliver a contract in the form attached hereto (properly completed in accordance with said bid) and shall furnish bonds for this faithful performance of said contract, and for the payment of all persons performing labor or furnishing material in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be null and void; otherwise it shall remain in full force, and effect.

Signed and sealed this_____day of _____20_____

WITNESS:

_____

_____

_____

WITNESS

_____

_____

_____

PRINCIPAL:

By_____

By:_____

By:_____

SURETY:

By_____

By:_____

Name of Local Agency: _____

NOTICE

Bidders:

Please use the attached “Request for Information” form when faxing questions and comments concerning specific Contracts that have been Advertised for Bid. Include additional numbered pages as required. Questions are to be faxed to the number listed in the Notice to Contractors. This is the only allowable mechanism for answering Project specific questions. Maine DOT will not be bound to any answers to Project specific questions received during the Bidding phase through other processes.

State of Maine
Department of Transportation

REQUEST FOR INFORMATION

Date _____ Time _____

Information Requested: **PIN: _____** **Town(s): _____**

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Request by: _____ **Phone: (_____)_____**
Bid Date: _____ **Fax: (_____)_____**

Complete top portion of form and transmit to the number listed in the Notice to Contractors

RFI No: _____ **RFI received: _____**

Response:_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Response By:_____ Date: _____

STATE OF MAINE
DEPARTMENT OF ADMINISTRATIVE & FINANCIAL SERVICES
DIVISION OF PURCHASES
BURTON M. CROSS BUILDING, 4TH FLOOR
9 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0009

JOHN ELIAS BALDACCI
GOVERNOR

REBECCA M WYKE
COMMISSIONER

BETTY M. LAMOREAU
DIRECTOR

July 2, 2007

Dear State of Maine Bidder:

As you may be aware, the State of Maine is implementing a new integrated financial, procurement and cash management system called AdvantageME. AdvantageME includes a synchronized Vendor Self Service (VSS) application. When we go live, we invite you to register in VSS so that you can receive and respond to our solicitations and receive awards (contracts and/or purchase orders) from the state.

The AdvantageME system will go live on July 5, 2007, and the VSS application will be available for new vendor registration at noon on that date. In the meantime, you're welcome to use the link below to access the text and video demos we have prepared to assist you in registering as a vendor with the State of Maine.

http://www.maine.gov/purchases/vendorinfo/vss.htm

We are also establishing a help desk, which will be available to you when the system goes live. On or after July 5, you can contact the help desk by telephone at (207) 624-7889 or by email at VSS.helpdesk@maine.gov.

We look forward to doing business with you through AdvantageME.

Sincerely,

Betty M. Lamoreau

Betty M. Lamoreau, Director

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
NOTICE TO CONTRACTORS

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper "Bid for a Sand/Salt Building and Brine/Cold Storage building in the town of **Topsham**" will be received from contractors at the Reception Desk, Maine DOT Building, Child Street, Augusta, Maine, until 11:00 o'clock A.M. (prevailing time) on August 29, 2007 , and at that time and place publicly opened and read. **MDOT provides the option of electronic bidding. We accept electronic bids for those bid packages posted on the bidx.com website. Electronic bids do not have to be accompanied by paper bids. Please note: the Department will accept a facsimile of the bid bond; however, the original bid bond must then be received at the MDOT Contract Section within 72 hours of the bid opening. During this transition, dual bids (one paper, one electronic) will be accepted, with the paper copy taking precedence.**

Description: PIN 14062.12, 14062.13

Location: In Sagadahoc County, project is located in Topsham

Outline of Work: Construction of a wooden Quonset type structure approximately 60' x 110' with laminated wooden arches and metal siding on concrete frost walls with interior paving, a loading ramp, a wooden building approximately 40' x 120' on concrete slab with brine making equipment and other incidental work.

For general information regarding Bidding and Contracting procedures, contact Scott Bickford at (207)624-3410. Our webpage at http://www.state.me.us/mdot/project/design/homepg.htm contains a copy of the schedule of items, Plan Holders List, written portions of bid amendments (not drawings), and bid results. For Project-specific information fax all questions to **Gail MacMunn** at (207)624-3431. Questions received after 12:00 noon of Monday prior to bid date will not be answered. Bidders shall not contact any other Departmental staff for clarification of Contract provisions, and the Department will not be responsible for any interpretations so obtained. Hearing impaired persons may call the Telecommunication Device for the Deaf at (207) 624-3007.

Plans, specifications and bid forms may be seen at the Maine DOT Building in Augusta, Maine. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207)624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Full size plans $18.00 ($21.50 by mail), Half size plans $9.00 ($11.25 by mail), Bid Book $10.00 ($13.00 by mail), Single Sheets $2.00, payment in advance, all non-refundable.

Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of $20,000 payable to Treasurer, State of Maine as a Bid guarantee. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each in the amount of 100 percent of the Contract price, will be required of the successful Bidder.

This Contract is subject to all applicable Federal Laws. This contract is subject to compliance with the Disadvantaged Business Enterprise program requirements as set forth by the Maine Department of Transportation.

All work shall be governed by "State of Maine, Department of Transportation, Standard Specifications, Revision of December 2002", price $10 [$13 by mail], and Standard Details, Revision of December 2002, price $20 [$25 by mail]. Standard Detail updates can be found at http://www.state.me.us/mdot/project/design/homepg.htm

The right is hereby reserved to the MDOT to reject any or all bids.

Augusta, Maine
August 8, 2007

JOHN E. DORITY
CHIEF ENGINEER

Topsham
14062.12 Sand/Salt Storage Building
14062.13 Cold Storage/Brine
August 3, 2004
Supercedes March 17, 2004

SPECIAL PROVISION 102.7.3
ACKNOWLEDGMENT OF BID AMENDMENTS

With this form, the Bidder acknowledges its responsibility to check for all Amendments to the Bid Package. For each Project under Advertisement, Amendments are located at http://www.maine.gov/mdot/comprehensive-list-projects/project-information.php It is the responsibility of the Bidder to determine if there are Amendments to the Project, to download them, to incorporate them into their Bid Package, and to reference the Amendment number and the date on the form below. The Maine DOT will not post Bid Amendments any later than noon the day before Bid opening without individually notifying all the planholders.

Amendment Number	Date

The Contractor, for itself, its successors and assigns, hereby acknowledges that it has received all of the above referenced Amendments to the Bid Package.

CONTRACTOR

_____ _____
Date Signature of authorized representative

_____
(Name and Title Printed)

SCHEDULE OF ITEMS REVISED:

CONTRACT ID: 014062.12 PROJECT(S): 14062.12
14062.13

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 PROJECT ITEM					
0010	815.00 BUILDING BRINE / COLD STORAGE	LUMP	LUMP			
0020	815.00 BUILDING SAND / SALT STORAGE	LUMP	LUMP			
	SECTION 0001 TOTAL					
	TOTAL BID					

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

_____

a corporation or other legal entity organized under the laws of the State of _____, with its principal place of business located at _____

_____

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. **14062.12 and 14062.13**, for the **Sand/Salt Storage Building and Cold Storage/Brine Building** in the town/city of **Topsham**, County of **Sagadahoc**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **December 14, 2007.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002 and related Special Provisions.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is _____

_____

$_ _____ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the Federal Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.

2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: PIN No. **14062.12 and 14062.13**, for the **Sand/Salt Storage Building and Cold Storage/Brine Building** in the town/city of **Topsham**, County of **Sagadahoc**, State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the Standard Specifications Revision of December 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Fifth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in

any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

_____	_____
Date	(Signature of Legally Authorized Representative of the Contractor)
_____	_____
Witness	(Name and Title Printed)

G. Award.

Your offer is hereby accepted. This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

_____	_____
Date	By: David A. Cole, Commissioner
_____	
Witness	

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

_____

a corporation or other legal entity organized under the laws of the State of _____, with its principal place of business located at _____

_____

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. **14062.12 and 14062.13**, for the **Sand/Salt Storage Building and Cold Storage/Brine Building** in the town/city of **Topsham**, County of **Sagadahoc**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **December 14, 2007.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002 and related Special Provisions.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is _____

_____

$_ _____ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the Federal Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.

2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: PIN No. **14062.12 and 14062.13**, for the **Sand/Salt Storage Building and Cold Storage/Brine Building** in the town/city of **Topsham**, County of **Sagadahoc**, State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the Standard Specifications Revision of December 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Fifth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in

any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

_____	_____
Date	(Signature of Legally Authorized Representative of the Contractor)
_____	_____
Witness	(Name and Title Printed)

G. Award.

Your offer is hereby accepted. This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

_____	_____
Date	By: David A. Cole, Commissioner
_____	
Witness	

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and **(Name of the firm bidding the job)** a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at **(address of the firm bidding the job)**

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. **1224.00**, for the **Hot Mix Asphalt Overlay** in the town/city of **West Eastport**, County of **Washington**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **November 15**, 2003**.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is **____(Place bid here in alphabetical form such as One Hundred and Two dollars and 10 cents)_____ $_ (repeat bid here in numerical terms, such as $102.10)_____** Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.

2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

PIN 1234.00 West Eastport, Hot Mix Asphalt Overlay,

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work on the date specified in the Engineer's "Notice to Commence Work" as stated in Section 107.2 of the Standard Specifications Revision of 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan by 4:30pm on the day of bid opening to the Contracts Engineer.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

_____ **(Sign Here)**

Date (Signature of Legally Authorized Representative of the Contractor)

____(**Witness Sign Here)** **(Print Name Here)**

Witness (Name and Title Printed)

G. Award.

Your offer is hereby accepted. This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

Date By: David A. Cole, Commissioner

(Witness)

BOND # _____

CONTRACT PERFORMANCE BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____ _____ **and the State of** _____, as principal, and……..., a corporation duly organized under the laws of the State of ..... and having a usual place of business ...., as Surety, are held and firmly bound unto the Treasurer of the State of Maine in the sum of _____ **and 00/100 Dollars ($)**, to be paid said Treasurer of the State of Maine or his successors in office, for which payment well and truly to be made, Principal and Surety bind themselves, their heirs, executors and administrators, successors and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal designated as Contractor in the Contract to construct Project Number _____ in the Municipality of _____ promptly and faithfully performs the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the State of Maine.

Signed and sealed this ..... day of ....., 20…. .

WITNESSES:	SIGNATURES: CONTRACTOR:
Signature.....	.....….....
Print Name Legibly	Print Name Legibly ...……....
	SURETY:
Signature	....….....
Print Name Legibly	Print Name Legibly .....
SURETY ADDRESS:	NAME OF LOCAL AGENCY:
.....	ADDRESS .....
.....	..……....
.....	.....…….....
TELEPHONE.....	.....…….....

BOND # _____

CONTRACT PAYMENT BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____
_____ **and the 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 Treasurer of the State of Maine for the use and benefit of claimants as herein below defined, in the sum of _____ **and 00/100 Dollars ($)** for the payment whereof Principal and Surety bind themselves, their heirs, executors and administrators, successors and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal designated as Contractor in the Contract to construct Project Number _____ in the Municipality of _____ promptly satisfies all claims and demands incurred for all labor and material, used or required by him in connection with the work contemplated by said Contract, and fully reimburses 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.

A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material or both, used or reasonably required for use in the performance of the contract.

Signed and sealed this ..... day of ....., 20 ... .

WITNESS:	SIGNATURES:
	CONTRACTOR:
Signature…….....	.....….....
Print Name Legibly .....……..	Print Name Legibly …....
	SURETY:
Signature.....	...….....
Print Name Legibly	Print Name Legibly …....
SURETY ADDRESS:	NAME OF LOCAL AGENCY:
...….....	ADDRESS ….....
.....	…….....
TELEPHONE	…….....

State of Maine
Department of Labor
Bureau of Labor Standards
Technical Services Division
Augusta, Maine 04333-0045
Telephone (207) 624-6445

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 -------- Sand/Salt Storage Bldg (14062.12), Cold Storage/Brine Bldg (14062.13)

Location of Project -- Topsham, Maine in Sagadahoc County

2007 Fair Minimum Wage Rates
Building 2 Sagadahoc County
(other than 1 or 2 family homes)

Occupation Title	Minimum Wage	Minimum Benefit	Total
Asbestos Abatement Wrkr	$15.00	$0.83	$15.83
Assembler - Metal Bldg	$12.00	$3.32	$15.32
Backhoe Loader Operator	$14.00	$2.24	$16.24
Boilermaker	$19.75	$4.21	$23.96
Boom Truck Operator	$16.50	$2.66	$19.16
Bricklayer	$21.43	$2.61	$24.04
Bulldozer Operator	$16.00	$2.87	$18.87
Cable Splicer	$20.25	$3.35	$23.60
Carpenter	$17.50	$2.60	$20.10
Carpenter - Acoustical	$13.00	$2.15	$15.15
Carpenter - Rough	$13.63	$2.52	$16.15
Cement Mason/Finisher	$15.00	$1.16	$16.16
Commun Equip Installer	$20.88	$4.02	$24.90
Concrete Mixing Plant Op	$14.55	$3.70	$18.25
Concrete Pump Operator	$18.25	$2.45	$20.70
Crane Operator =>15 Tons	$19.50	$4.70	$24.20
Crusher Plant Operator	$14.48	$3.27	$17.75
Diver	$21.00	$0.75	$21.75
Driller - Well	$13.00	$1.94	$14.94
Dry-Wall Applicator	$20.63	$0.00	$20.63
Dry-Wall Taper & Finisher	$18.00	$0.89	$18.89
Electrician	$20.25	$6.20	$26.45
Electrician Hlpr (Licensed)	$13.99	$1.79	$15.78
Elevator Constrctr/Installer	$40.32	$14.77	$55.09
Excavator Operator	$14.50	$2.26	$16.76
Fence Setter	$12.50	$1.08	$13.58
Floor Layer	$15.00	$1.35	$16.35
Glazier	$13.75	$1.97	$15.72
Insulation Installer	$15.00	$1.85	$16.85

Occupation Title	Minimum Wage	Minimum Benefit	Total
Ironworker - Reinforcing	$18.00	$10.00	$28.00
Ironworker - Structural	$17.00	$3.01	$20.01
Laborers/Helper/Tender	$12.50	$1.52	$14.02
Laborer - Skilled	$14.00	$0.78	$14.78
Loader Op - Front End	$14.75	$2.28	$17.03
Mechanic - Maintenance	$19.34	$2.73	$22.07
Mechanic - Refrigeration	$20.19	$4.48	$24.67
Millwright	$21.00	$11.15	$32.15
Oil/Fuel Burner Serv & Instr	$18.50	$6.09	$24.59
Painter	$12.00	$1.55	$13.55
Paperhanger	$13.00	$0.00	$13.00
Paver - Bituminous	$14.88	$1.27	$16.15
Pile Driver Operator	$19.00	$5.55	$24.55
Pipe/Stm/Sprkler Fitter	$19.00	$4.35	$23.35
Pipelayer	$20.75	$5.45	$26.20
Plumber (Licensed)	$20.60	$4.39	$24.99
Plumber Hlpr/Trainee (Lic)	$13.50	$2.47	$15.97
Roller Operator - Earth	$12.43	$4.49	$16.92
Roofer	$14.00	$1.45	$15.45
Screed Operator	$15.50	$3.42	$18.92
Sheet Metal Worker	$16.25	$3.38	$19.63
Sider	$14.00	$0.60	$14.60
Stone Mason	$16.24	$2.04	$18.28
Tile Setter	$17.00	$3.14	$20.14
Truck Driver - Light	$13.25	$0.98	$14.23
Truck Driver - Medium	$11.38	$0.71	$12.09
Truck Driver - Heavy	$13.00	$2.10	$15.10
Truck Driver - Tractor Trailer	$12.95	$2.10	$15.05

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: B2-070-2007

Filing Date: June 15, 2007

Expiration Date: 12-31-2007

A true copy

Attest: _____
William A. Peabody
Director
Bureau of Labor Standards

SPECIAL PROVISION SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

104.3.8A. Federal Wage Rates and Labor Laws Delete the entire section 104.3.8A.

104.3.8B State Wage Rates and Labor Laws The State wage rates enclosed apply to this project.

March 14, 2007
Supersedes March 3, 1966

Non-federal Projects Only

NOTICE TO CONTRACTORS - PREFERRED EMPLOYEES

Sec. 1303. Public Works; minimum wage

In the employment of laborers in the construction of public works, including state highways, by the State or by persons contracting for the construction, preference must first be given to citizens of the State who are qualified to perform the work to which the employment relates and, if they can not be obtained in sufficient numbers, then to citizens of the United States. Every contract for public works construction must contain a provision for employing citizens of this State or the United States. The hourly wage and benefit rate paid to laborers employed in the construction of public works, including state highways, may not be less than the fair minimum rate as determined in accordance with section 1308. Any contractor who knowingly and willfully violates this section is subject to a fine of not less than $250 per employee violation. Each day that any contractor employs a laborer at less than the wage and benefit minimum stipulated in this section constitutes a separate violation of this section. [1997, c. 757, §1 (amd).]

SPECIAL PROVISION
SECTION 107
Time
(Contract Time)

1. The completion date for this project is December 14, 2007.

SPECIAL PROVISION
DIVISION 400
PAVEMENTS

SECTION 401 - HOT MIX ASPHALT PAVEMENT

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 shown on the plans or established by the Resident. The Department will accept this work under Quality Assurance provisions, in accordance with these specifications and the requirements of Section 106 – Quality, the provisions of AASHTO M 323 except where otherwise noted in sections 401 and 703 of these specifications, and the Maine DOT Policies and Procedures for HMA Sampling and Testing.

401.02 Materials Materials shall meet the requirements specified in Section 700 - Materials:

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

401.021 Recycled Asphalt Materials Recycled Asphalt Pavement (RAP) may be introduced into the mixture at percentages approved by the Department. If approved by the Department, the Contractor shall provide documentation stating the source, 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 Department will obtain samples for verification and approval prior to it's use.

In the event that RAP source or properties change, the Contractor shall notify the Department 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.

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 T312 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% reclaimed asphalt pavement (RAP) in any base, binder, surface, or shim course. The Contractor may be allowed to use more than 15% RAP, up to a maximum of 25% RAP, in a base, binder, or shim course provided that PG 58-34 asphalt binder is used in the mixture.

The Contractor shall submit for Department approval a JMF to the Central Laboratory in Bangor for each mixture to be supplied. The Department may approve 1 active design per nominal maximum size, per traffic level, per plant, plus a 9.5mm “fine” mix @ 50 gyrations for shimming and where required, a non-RAP design for bridge decks. The Department shall then have 15 calendar days in which to process a new design before approval. The JMF shall establish a single percentage of aggregate passing each sieve size within the limits shown in Table 1 of section 703.09. The general composition limits given in Table 1 of section 703.09 indicate the control points of mixtures permissible under this specification. The mixture shall be designed and produced, including all production tolerances, within the allowable control points for the particular type of mixture as outlined in Table 1 of section 703.09 The JMF shall state the original source, gradation, and percentage to be used of each portion of the aggregate and mineral filler if required. It shall also state the proposed PGAB content, the name and location

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

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

Properly completed JMF indicating all mix properties (Gmm, VMA, VFB, etc.)
Stockpile Gradation Summary
Design Aggregate Structure Consensus Property Summary
Design Aggregate Structure Trial Blend Gradation Plots (0.45 power chart)
Trial Blend Test Results for at least three different asphalt contents
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

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 135 Mg [150 ton] for stone stockpiles, 70 Mg [75 ton] for sand stockpiles, and 45 Mg [50 ton] of blend sand before the Department will sample. The Department shall obtain samples for laboratory testing. The Contractor shall also make available to the Department 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 Department shall split a production sample for evaluation. The Contractor shall test its split of the sample and determine if the results meet the requirements of the Department's written policy for mix design verification (See Maine DOT Policies and Procedures for HMA Sampling and Testing available at the Central Laboratory in Bangor). If the results are found to be acceptable, the Contractor will forward their results to the Department's Lab, which will test the Department's split of the sample. The results of the two split samples will be compared and shared between the Department and the Contractor. If the Department finds the mixture acceptable, an approved JMF will be forwarded to the Contractor and 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. 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%. Adjustments will be allowed on GMM of up to 0.010.

The Contractor shall submit a new JMF for approval each time a change in material source or materials properties is proposed. The same approval process shall be followed. The cold feed percentage of any aggregate may be adjusted up to 10 percentage points from the amount listed on the JMF, however no aggregate listed on the JMF shall be eliminated. The cold feed percentage for RAP may be adjusted up to 5 percentage points from the amount listed on the JMF but shall not exceed the maximum allowable percentage for RAP 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)					Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
				Nominal Maximum Aggregate Size (mm)						
	$N_{initial}$	N_{design}	N_{max}	25	19	12.5	9.5	4.75		
<0.3	≤91.5	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	70-80	0.6-1.2
0.3 to <3	≤90.5								65-80	
3 to <10	≤89.0								65-80*	
10 to <30										
≥ 30										

*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.

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 135° to 163°C [275 to 325°F]
At the Paver – allowable range 135° to 163°C [275 to 325°F]

The JMF and the mix subsequently produced shall meet the requirements of Tables 1 and Section 703.07.

401.05 Performance Graded Asphalt Binder Unless otherwise noted in Special Provision 403 - Hot Bituminous Pavement, PGAB shall be 64-28, except that for mixtures containing greater than 15% but no more than 25% RAP the PGAB shall be PG 58-34. The PGAB shall meet the applicable requirements of AASHTO M320 - Standard Specification for PGAB. The Contractor shall provide the Department with an approved copy of the Quality Control Plan for PGAB in accordance with AASHTO R 26 Certifying Suppliers of PGAB.

401.06 Weather and Seasonal Limitations The State is divided into two paving zones as follows:

a. Zone 1 Areas north of US Route 2 from Gilead to Bangor and north of Route 9 from Bangor to Calais.

b. Zone 2 Areas south of Zone 1 including the US Route 2 and Route 9 boundaries.

The Contractor may place Hot Mix Asphalt Pavement for use other than a traveled way wearing course in either Zone between the dates of April 15th and November 15th, provided that the air temperature as determined by an approved thermometer (placed in the shade at the paving location) is 4°C [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 in Zone 1 between the dates of May 1st and the Saturday following October 1st and in Zone 2 between the dates of April 15th and the Saturday following October 15th, provided the air temperature determined as above is 10°C [50°F] or higher. For the purposes of this Section, the traveled way includes truck lanes, ramps, approach roads and auxiliary lanes. The atmospheric temperature for all courses on bridge decks shall be 10°C [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. Unless otherwise specified, the Contractor shall not place Hot Mix Asphalt Pavement on a wet or frozen surface and the air temperature shall be 4°C [40°F] or higher.

On all sections of overlay with wearing courses less than 25 mm [1 in] thick, the wearing course for the travelway and adjacent shoulders shall be placed between the dates of May 15th and the Saturday following September 15th.

On all sections of overlay with wearing courses less than 1 inch thick, the wearing course for the travelway and adjacent shoulders shall be placed between the dates of June 1st and the Saturday following September 1st if the work is to be performed, either by contract requirement, or Contractor option, during conditions defined as "night work".

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 Department 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 20 Kg [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 Section 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 Section 108.1.3 - Provisions Relating to Certain Measurements, Mass and paragraphs a, b, and c of Section 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 Section 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 MDOT designation for the JMF.

401.074 Weight Checks on Automatic HMA Plant At least twice during each 5 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. Whenever the discrepancy in net weights is greater than 1.0%, but does not exceed 1.5%, the plant inspector will notify the producer to take corrective action; payment will still be governed by the printed ticket. The producer will be allowed a period of two days to make any needed repairs to the plant and/or platform scales so that the discrepancy in net weights between the two is less than 1.0%. 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. Effective corrective action shall be taken within two working days.

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

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

401.08 Hauling Equipment Trucks for hauling Hot Mix Asphalt 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.

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 loaded truck except when 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 300 mm [12 in] 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 on the main line, 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 3 m [10 ft] minimum main screed with activated extensions.

The Contractor shall place Hot Mix Asphalt Pavement on the main line with a paver using an automatic grade and slope controlled screed, unless otherwise authorized by the Department. 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 superelevated 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 10 m [30 ft], a non-contact grade control with a minimum span of 7.3 m [24 ft], except that a 12 m [40 ft] reference shall be used on Expressway 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 Section 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 necessary.

The Contractor shall have the paver at the project site sufficiently before the start of paving operations to be inspected and approved by the Department. The Contractor shall repair or replace any paver found worn or defective, either before or during placement, to the satisfaction of the Department. Pavers that produce an unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA on MDOT

projects. On a daily basis, the Contractor shall perform nuclear density testing across the mat being placed, at 300 mm [12 in] intervals. If the values vary by more than 2.0% from the mean, the Contractor shall make adjustments until the inconsistencies are remedied.

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

401.10 Rollers Rollers shall be static steel, pneumatic tire, 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 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 14.5 Mg [16 ton] pneumatic-tired on bridges and variable depth courses as well as the first lift of pavement over gravel, a reclaimed pavement, or other irregular surface. When required by the Resident, the roller shall be ballasted to 18.1 Mg [20 ton].

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

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.

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 Department will check surface tolerance utilizing the following methods :

a.) A 5 m [16 ft] straightedge or string line placed parallel to the centerline of pavement.

b.) A 3 m [10 ft] straightedge or string line placed transverse to the centerline of pavement.

.

The Contractor shall correct variations exceeding 6 mm [¼ in] by removing defective work and replacing it with new material as directed by the Department. The Contractor shall furnish a 10 foot straightedge for the Departments 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 Department shall agree on the amount of Hot Mix Asphalt Pavement that has been placed each day.

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 14°C [25°F] above the temperature at which the viscosity of the PGAB being used is 0.150 Pa•s.

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.

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 Department in Section 403 - Hot Bituminous Pavement.

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.

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 Department. 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 Department.

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 Department.

401.17 Joints The Contractor shall construct wearing course transverse joints in such a manner that minimum tolerances shown in Section 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 section 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 Department may allow feathered or "lap" joints on lower courses or when matching existing low type pavements.

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

The Contractor shall apply a coating of emulsified asphalt immediately before paving all joints to the vertical face and 75 mm [3 in] of the adjacent portion of any pavement being overlaid except those formed by pavers operating in echelon. The Contractor shall use an approved spray apparatus designed for covering a narrow surface. The Department 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 working day.

Where pavement under this contract joins an existing pavement or when the Department directs, the Contractor shall cut the existing pavement along a smooth line, producing a neat, even, vertical joint. The Department 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 Method A, B & C The Contractor shall 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 106.6 - Acceptance and this Section. The Contractor shall not begin paving operations until the Department approves the QCP in writing.

Prior to placing any mix, the Department 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 Departments' random numbers for Acceptance testing shall be generated and on file with the Resident and the Project Manager. All field and plant supervisors including the responsible onsite paving supervisor shall attend this meeting.

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 Technicians(s) and certification number(s)
i. Mixing & transportation including process for ensuring that truck bodies are clean and free of debris or contamination that could adversely affect the finished pavement
j. Testing Plan
k. Laydown operations including longitudinal joint construction, procedures for avoiding paving in inclement weather, type of release agent to be used on trucks tools and rollers, compaction of shoulders, tacking of all joints, methods to ensure that segregation is minimized, procedures to determine the maximum rolling and paving speeds based on best engineering practices as well as past experience in achieving the best possible smoothness of the pavement
l. Examples of Quality Control forms including a daily plant report and a daily paving report
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
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 note detailing conditions under which the percent of RAP will vary from that specified on the JMF.s. A note detailing when production will be halted due to QC testing results.

The QCP shall include the following technicians together with these 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 Department 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. 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 properly 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 in the QCP, and the responsibilities for successful implementation of the QCP shall be outlined.

The Contractor shall sample, test, and evaluate Hot Mix Asphalt Pavement in accordance with the following minimum frequencies:

TABLE 2 : MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Temperature of mix	6 per day at street and plant	-
Temperature of mat	4 per day	-
%TMD (Surface)	1 per 115 Mg [125 ton] (As noted in QC Plan)	ASTM D2950
%TMD (Base)	1 per 225 Mg [250 ton] (As noted in QC Plan)	AASHTO T269
Fines / Effective Binder	1 per 450 Mg [500 ton]	AASHTO T 312*
Gradation	1 per 450 Mg [500 ton]	AASHTO T30
PGAB content	1 per 460 Mg [500 ton]	AASHTO T164 or T308
Voids at N_{design}	1 per 450 Mg [500 ton]	AASHTO T 312*
Voids in Mineral Aggregate at N_{design}	1 per 450 Mg [500 ton]	AASHTO T 312*
Rice Specific Gravity	1 per 450 Mg [500 ton]	AASHTO T209
Coarse Aggregate Angularity	1 per 4500 Mg [5000 ton]	ASTM D5821
Flat and Elongated Particles	1 Per 4500 Mg [5000 ton]	ASTM D4791
Fine Aggregate Angularity	1 Per 4500 Mg [5000 ton]	AASHTO T304

*Method A and B only.

The Contractor may utilize innovative equipment or techniques not addressed by the Contract documents to produce or monitor the production of the mix, subject to approval by the Department.

The Contractor shall submit all Hot Mix Asphalt Pavement plant test reports, inspection reports and updated pay factors in writing, signed by the appropriate technician and present them to the Department by 1:00 P.M. on the next working day, except when otherwise noted in the QCP due to local restrictions. The Contractor shall also retain splits of the previous 5 QC tests, with QC results enclosed for random selection and testing by The Department during QA inspections of the HMA production facility. Test results of splits that do not meet the Dispute Resolution Variance Limits in Table 10 shall trigger an investigation by the MDOT Independent Assurance Unit, and may result in that lab losing NETTCP certification and the ability to request a dispute [Section 401.223 - Process for Dispute Resolution (Methods A , B and C only)].

The Contractor shall make density test results, including randomly sampled densities, available to the Department onsite. Summaries of each day's results, including a daily paving report, shall be recorded and signed by the QCT and presented to the Department by 1:00 p.m. the next working day.

The Contractor shall have a testing lab at the plant site, equipped with all testing equipment necessary to complete the tests in Table 2. The Contractor shall locate an approved SHRP Gyratory Compactor at the plant testing lab or within 30 minutes of the plant site.

The Contractor shall fill all holes in the pavement resulting from cutting cores by the Contractor or the Department with a properly compacted, acceptable mixture no later than the following working day. Before filling, the Contractor shall carefully clean the holes and apply a coating of emulsified asphalt. On surface courses, cores shall not be cut except for Verification of the Nuclear Density Gauge, at a rate not to exceed 3 per day or 2 per 900 Mg [1000 ton] placed.

The Contractor shall monitor plant production using running average of three control charts as specified in Section 106 - Quality. Control limits shall be as noted in Table 3 below. The UCL and LCL, shall not exceed the allowable control points for the particular type of mixture as outlined in Table 1 of section 703.09

TABLE 3: Control Limits

Property	UCL and LCL
Passing 4.75 mm and larger sieves	Target +/-4.0
Passing 2.36 mm sieve	Target +/-2.5
Passing .075 mm sieve	Target +/-1.2
PGAB Content*	Target +/-0.3
Voids in the Mineral Aggregate	LCL = LSL + 0.2
% Voids at N_{design}	JMF Target +/-1.3

*Based on AASHTO T 308

The Contractor shall cease paving operations whenever one of the following occurs on a lot in progress:

a. Methods A and B: The Pay Factor for VMA, Voids @ N_d, Percent PGAB, composite gradation, VFB, fines to effective binder or density using all Acceptance or all Quality Control tests for the current lot is less than 0.85. Method C: The Pay Factor for VMA, Voids @ N_d, Percent PGAB, percent passing the nominal maximum sieve, percent passing 2.36 mm sieve, percent passing 0.300 mm sieve or percent passing 0.075 mm sieve using all Acceptance or all Quality Control tests for the current lot is less than 0.85.

b. The Coarse Aggregate Angularity or Fine Aggregate Angularity value falls below the requirements of Table 3: Aggregate Consensus Properties Criteria for the design traffic level.

c. Each of the first 2 control tests for a Method A or B lot fall outside the upper or lower limits for VMA, Voids @ Nd, or Percent PGAB; or under Method C, each of the first 2 control tests for the lot fall outside the upper or lower limits for the individual gradation sieve sizes as required in Table 3, or Percent PGAB.
This includes any case where both tests are out on the same, or different properties.

d. The Flat and Elongated Particles value exceeds 10% by ASTM D4791.

e. There is any visible damage to the aggregate due to over-densification other than on variable depth shim courses.

f. The Contractor fails to follow the approved QCP.

g. The Contractor's control chart shows the process to be out of control (defined as a single point outside of the control limits on the running average of three chart.) on any property listed in Table 3: Control Limits.

Paving operations shall not resume until the Contactor and the Department determines that material meeting the Contract requirements will be produced. The Department will consider corrective action acceptable if the pay factor for the failing property increases, based on samples already in transit, or a verification sample is tested and the property falls within the specification limits.

The Department retains the exclusive right, with the exception of the first day's production of a new JMF, to determine whether the resumption of production involves a significant change to the production process. If the Department so determines, then the current lot will be terminated, a pay factor established, and a new lot will begin.

401.19 Quality Control Method D For Items covered under Method D, the Contractor shall submit a modified QC Plan detailing, how the mix is to be placed, what equipment is to be used, and what HMA plant is to be used. All mix designs (JMF) shall be approved and verified by MDOT prior to use. Certified QC personnel shall not be required. The Contractor shall certify the mix and the test results for each item by a Certificate of Compliance.

401.20 Acceptance Method A, B & C These methods utilizes Quality Level Analysis and pay factor specifications.

For Hot Mix Asphalt Pavement designated for acceptance under Quality Assurance provisions, the Department will sample once per sublot on a statistically random basis, test, and evaluate in accordance with the following Acceptance Criteria:

TABLE 4: ACCEPTANCE CRITERIA

PROPERTIES	POINT OF SAMPLING	TEST METHOD
Gradation	Paver Hopper	AASHTO T30
PGAB Content	Paver Hopper	AASHTO T308
%TMD (Surface)	Mat behind all Rollers	AASHTO T269
%TMD (Base or Binder)	Mat behind all Rollers	AASHTO T269
Air Voids at N_d	Paver Hopper	AASHTO T 312
%VMA at N_d	Paver Hopper	AASHTO T 312
Fines to Effective Binder	Paver Hopper	AASHTO T 312
%VFB	Paver Hopper	AASHTO T 312

On the first day of production in the current calendar year, or the first day of production of a new JMF the Department will take three random samples, which will be used to calculate the quality level of the in-place material in the event the lot is terminated prematurely. Only one of the three will be tested, the other two will be held onsite until at least three random samples have been taken, at which time the other two will be discarded.

Lot Size For purposes of evaluating all acceptance test properties, a lot shall consist of the total quantity represented by each item listed under the lot size heading.

If the Department terminates a Lot prematurely, the samples from the first days production will be used to calculate a volumetric pay factor, and a minimum of three cores will be used for a density pay factor, if applicable, for quantities placed to date.

Sublot size The quantity represented by each sample will constitute a sublot. . If there is insufficient quantity in a lot to make up at least four sublots, then the lot quantity will be divided into four equal sublots for mix properties and five sublots for percent TMD.

If there is less than one-half of a sublot remaining at the end, then it shall be combined with the previous sublot. If there is more than one-half sublot remaining at the end, then it shall constitute the last sublot and shall be represented by test results. If it becomes apparent partway through a Lot that, due to an underrun, there will be insufficient mix quantity to obtain the minimum number of sublots needed, the Resident may adjust the size of the remaining sublots and select new sample locations based on the estimated quantity of material remaining in the Lot.

Acceptance Testing The Department will obtain samples of Hot Mix Asphalt Pavement in conformance with AASHTO T168 Sampling Bituminous Paving Mixtures, and theMaine DOT Policies and Procedures for HMA Sampling and Testing, which will then be transported by the Contractor to the designated MDOT Laboratory, as directed by MDOT in approved transport containers to be provided by the Department, unless otherwise directed by the Resident. The Department will take the sample randomly within each sublot. Target values shall be as specified in the JMF. The Department will use Table 5 for calculating pay factors for gradation, PGAB Content, Air Voids at N_{design}, VMA, Fines to Effective Binder and VFB. The Department will withhold reporting of the test results for the Acceptance sample until 7:00 AM, on the second working day of receipt of the sample, or after receipt of the Contractors results of the Acceptance sample split. Upon conclusion of each lot, where there is a minimum of four sublots, results shall be examined for statistical outliers, as stated in Section 106.7.2 - Statistical Outliers.

Isolated Areas During the course of inspection, should it appear that there is an isolated area that is not representative of the lot based on a lack of observed compactive effort, excessive segregation or any other questionable practice, that area may be isolated and tested separately. An area so isolated that has a calculated pay factor below 0.80, based on three random tests shall be removed and replaced at the expense of the Contractor for the full lane width and a length not to be less than 50 m [150 ft].

Pavement Density The Department will measure pavement density using core samples tested according to AASHTO T-166. The Department will randomly determine core locations. The Contractor shall cut 6 inch diameter cores at no additional cost to the Department by the end of the working day following the day the pavement is placed, and immediately give them to the Department. The cores will be placed in a transport container provided by the Department and transported by the Contractor to the designated MDOT Lab as directed by the Department. Pre-testing of the cores will not be allowed. At the time of sampling, the Contractor and the Department shall mutually determine if a core is damaged. If it is determined that the core(s) is damaged, the Contractor shall cut new core(s) at the same offset and within 1 m [3 ft] of the initial sample. At the time the core is cut, the Contractor and the Department will mutually determine if saw cutting of the core is needed, and will mark the core at the point where sawing is needed. The core may be saw cut by the Contractor in the Department's presence onsite, or in an MDOT Lab by The Department, without disturbing the layer being tested to remove lower layers of Hot Mix Asphalt Pavement, gravel, or RAP. No recuts are allowed at a test location after the core has been tested. Upon conclusion of each lot, density results shall be examined for statistical outliers as stated in Section 106.7.2.

There shall be no pay adjustment for density on shoulders unless otherwise noted in Section 403 - Hot Bituminous Pavement. Density for shoulders shall be obtained by the same rolling train and methods as used on mainline travelway, unless otherwise directed by the Department. Efforts to obtain optimum compaction will not be waived by the Department unless it is apparent during construction that local conditions make densification to this point detrimental to the finished pavement surface course.

401.201 Method A Lot Size will be the entire production per JMF for the project, or if so agreed at the Pre-paving Conference, equal lots of up to 4050 Mg [4500 tons], with unanticipated over-runs of up to 1350 Mg [1500 ton] rolled into the last lot. Sublot sizes shall be 675 Mg [750 ton] for mixture properties, 450 Mg [500 ton] for base or binder densities and 225 Mg [250 ton] for surface densities. The minimum number of sublots for mixture properties shall be 4, and the minimum number of sublots for density shall be five.

TABLE 5: METHOD A ACCEPTANCE LIMITS

Property	USL and LSL
Passing 4.75 mm and larger sieves	Target +/-7%
Passing 2.36 mm to 1.18 mm sieves	Target +/-4%
Passing 0.60 mm	Target +/-3%
Passing 0.30 mm to 0.075 mm sieve	Target +/-2%
PGAB Content	Target +/-0.4%
Air Voids	4.0% +/-1.5%
Fines to Effective Binder	0.6 to 1.2
Voids in the Mineral Aggregate	LSL Only from Table 1
Voids Filled with Binder	Table 1 values plus a 4% production tolerance for USL only
% TMD (In place density)	95.0% +/- 2.5%

401.202 Method B Lot Size will be the entire production per JMF for the project and shall be divided into 3 equal sublots for Mixture Properties and 3 equal sublots for density.

TABLE 6: METHOD B ACCEPTANCE LIMITS

Property	USL and LSL
Percent Passing 4.75 mm and larger sieves	Target +/-7
Percent Passing 2.36 mm to 1.18 mm sieves	Target +/-5
Percent Passing 0.60 mm	Target +/-4
Percent Passing 0.30 mm to 0.075 mm sieve	Target +/-3
PGAB Content	Target +/-0.5
Air Voids	4.0% +/-2.0
Fines to Effective Binder	0.6 to 1.4
Voids in the Mineral Aggregate	LSL from Table 1
Voids Filled with Binder	Table1 plus a 4% production tolerance for USL.
% TMD (In-place Density)	95.0% +/- 2.5%

401.203 Testing Method C Lot Size will be the entire production per JMF for the project, or if so agreed at the Pre-paving Conference, equal lots of up to 4050 Mg [4500 tons], with unanticipated over-runs of up to 1350 Mg [1500 ton] rolled into the last lot. Sublot sizes shall be 675 Mg [750 ton] for mixture properties, 450 Mg [500 ton] for base or binder densities and 225 Mg [250 ton] for surface densities. The minimum number of sublots for mixture properties shall be 4, and the minimum number of sublots for density shall be five.

TABLE 7: METHOD C ACCEPTANCE LIMITS

Property	USL and LSL
Passing 4.75 mm and larger sieves	Target +/-7%
Passing 2.36 mm to 1.18 mm sieves	Target +/-4%
Passing 0.60 mm	Target +/-3%
Passing 0.30 mm to 0.075 mm sieve	Target +/-2%
PGAB Content	Target +/-0.4%
Air Voids	4.0% +/-1.5%

Fines to Effective Binder	0.6 to 1.2
Voids in the Mineral Aggregate	LSL Only from Table 1
Voids Filled with Binder	Table 1 values plus a 4% production tolerance for USL only
% TMD (In place density)	95.0% +/- 2.5%

401.204 Testing Method D For hot mix asphalt items designated as Method D in Section 403 - Hot Bituminous Pavement, one sample will be taken from the paver hopper or the truck body per 225 Mg [250 ton] per pay item. The mix will be tested for gradation and PGAB content. Disputes will not be allowed. If the mix is within the tolerances listed in Table 8: Method D Acceptance Limits, the Department will pay the contract unit price. If the test results for each 225 Mg [250 ton] increment are outside these limits, the following deductions (Table 8b) shall apply to the HMA quantity represented by the test.

TABLE 8: METHOD D ACCEPTANCE LIMITS

Property	USL and LSL
Percent Passing 4.75 mm and larger sieves	Target +/-7
Percent Passing 2.36 mm to 1.18 mm sieves	Target +/-5
Percent Passing 0.60 mm	Target +/-4
Percent Passing 0.30 mm to 0.075 mm sieve	Target +/-3
PGAB Content	Target +/-0.5
% TMD (In-place Density)	95.0% +/- 2.5%

TABLE 8b Method "D" Price Adjustments

PGAB Content	-5%
2.36 mm sieve	-2%
0.30 mm sieve	-1%
0.075 mm sieve	-2%
Density	-10%*

*Only applies when called for in Section 403 - Hot Bituminous Pavement. Contractor shall cut two 150 mm [6 in] cores, which shall be tested for percent TMD per AASHTO T-269. If the average for the two tests falls below 92.5% the disincentive shall apply.

401.21 Method of Measurement The Department will measure Hot Mix Asphalt Pavement by the Mg [ton] in accordance with Section 108.1 - Measurement of Quantities for Payment.

401.22 Basis of Payment The Department 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 Department will pay for the work specified in Section 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 emulsified asphalt to joints, and providing testing facilities and equipment.

The Department will make a pay adjustment for quality as specified below.

401.221 Price Adjustment for the Quality of Hot Bituminous Pavement (Methods A, B and C) The Department will sample, test, and evaluate Hot Mix Asphalt Pavement in accordance with Section 106 - Quality and Section 401.20 - Acceptance, of this Specification.

401.222 Pay Factor (PF) (Methods A and B) The Department will use density, Performance Graded Asphalt Binder content, voids @$N_{d,}$ VMA, VFB, F/B^{e}, and the screen sizes listed in Table 9 for the type of HMA represented in the JMF. The Department will evaluate materials using the following price adjustment factors under Section 106.7 - Quality Level Analysis.

The Department will apply price adjustments to the appropriate Hot Mix Asphalt Pavement pay items. Price adjustments shall be applied based on test results for each lot. If any pay factor for any single property (or composite gradation under Method A or B) falls below 0.85, the Contractor shall shut down the HMA plant.

If any single pay factor for PGAB Content, VMA, or Air Voids under :

a. Method A falls below 0.75, then the composite pay factor for PGAB Content, VMA, and Air Voids shall be 0.55.
b. Method B falls below 0.83, then the composite pay factor for PGAB Content, VMA, and Air Voids shall be 0.70.

If the PGAB content for Method C falls below 0.75, then the PGAB pay factor shall be 0.55. If the percent passing the nominal maximum sieve, the 2.36 mm sieve, the 0.300 mm sieve or the 0.075 mm sieve for Method C falls below 0.75, then the composite pay factor for the four sieves shall be 0.55.

If the pay factor for Density falls below 0.80 for Method A or C or 0.83 for Method B, all of the cores will be randomly recut by Sublot. A new pay factor will be calculated that combines all initial and retest results. If the resulting pay factor is below 0.80 for Method A or C or below 0.83 for Method B, the entire Lot shall be removed and replaced with material meeting the specifications at no additional cost to the Department, except that the Department may, when it appears that there is a distinct pattern of defective material, isolate any defective material by investigating each mix sample sublot and require removal of defective mix sample sublots only, leaving any acceptable material in place if it is found to be free of defective material. Pay factors equal to or greater than the reject level will be paid accordingly.

TABLE 9: TABLE OF GRADATION COMPOSITE " f " FACTORS
(Methods A and B)

Constituent		"f" Factor			
		19 mm	12.5 mm	9.5 mm	4.75 mm
Gradation	25 mm	-	-	-	-
	19 mm	4	-	-	-
	12.5 mm		4	4	-
	9.50 mm				4
	2.36 mm	6	6	6	8
	1.18 mm				
	0.60 mm	2	2	2	2
	0.30 mm	2	2	2	2
	0.075 mm	6	6	6	8

For each lot of material, the Department will determine a price adjustment as follows:

Gradation The Department will determine a composite pay factor (CPF) using applicable price adjustment factors "f" from Table 9: Table of Gradation Composite "f" Factors, and Acceptance limits from Table 5: Method A Acceptance Limits, for Method A or Table 6: Method B Acceptance Limits, for Method B. The Department will not make price adjustments for gradation on Methods A and B, but will monitor them as shutdown criteria.

VFB and Fines to Effective Binder The Department will determine a pay factor (PF) using acceptance limits from Table 5: Method A Acceptance Limits, for Method A and C or Table 6: Method B Acceptance Limits, for Method B. The Department will not make price adjustments for VFB or Fines to Effective Binder, but will monitor them as shutdown criteria.

Density For mixes having a density requirement, the Department will determine a pay factor using acceptance limits from Table 5: Method A Density Acceptance Limits, for Method A or Table 6: Method B Acceptance Limits, for Method B. The Department will calculate the price adjustment for density as follows:

PA = (density PF- 1.0)(Q)(P)x0.50

Where

PA = Price Adjustment
Q = Quantity represented by PF in Mg [ton]
P = Contract price per Mg [ton]
PF = Pay Factor

The maximum pay factor for Density shall be 1.025.

PGAB Content, VMA and Air Voids For mixes having a Volumetric Properties requirement, the Department will determine a pay factor using acceptance limits from Table 5: Method A Acceptance Limits, for Method A or Table 6: Method B Acceptance Limits, for Method B. The Department will calculate the price adjustment for Volumetric Properties as follows:

PA = (voids @ N_d PF- 1.0)(Q)(P)x0.20 + (VMA @ N_d PF- 1.0)(Q)(P)x0.20 + (PGAB PF- 1.0)(Q)(P)x0.10,

Where

PA = Price Adjustment
Q = Quantity represented by PF in Mg [ton]
P = Contract price per Mg [ton]
PF = Pay Factor

The maximum Composite Pay Factor for mixes having only a Volumetric requirement shall be 1.025.

Pay Factor (PF) (Method C) The Department will use density, Performance Graded Asphalt Binder content, and the screen sizes listed in Table **7** for the type of HMA represented in the JMF. The Department will evaluate materials using the following price adjustment factors under Section 106.7 - Quality Level Analysis.

The Department will apply price adjustments to the appropriate Hot Mix Asphalt Pavement pay items. Price adjustments shall be applied based on test results for each lot. The Department will not make price adjustments for VMA, Voids at N^d, VFB or Fines to Effective Binder, but will monitor them as shutdown criteria, and continuation of JMF approval.

Density For mixes having a density requirement, the Department will determine a pay factor using acceptance limits from Table 7: Method C Acceptance Limits. The Department will calculate the price adjustment for density as follows:

PA = (density PF- 1.0)(Q)(P)x0.50

Where

PA = Price Adjustment
Q = Quantity represented by PF in Mg [ton]
P = Contract price per Mg [ton]
PF = Pay Factor

The maximum pay factor for Density shall be 1.025.

PGAB Content and Gradation The Department will determine a pay factor using acceptance limits from Table **7**: Method C Acceptance Limits. The Department will calculate the price adjustment for Mixture Properties as follows:

PA = (%Passing Nom. Max PF-1.0)(Q)(P)X0.05+(%passing 2.36 mm PF-1.0)(Q)(P)X0.05+(%passing 0.30 mm PF-1.0)(Q)(P)X0.05+(%passing 0.075 mm PF-1.0)(Q)(P)X0.10+(PGAB PF-1.0)(Q)(P)X0.25

Where

PA = Price Adjustment
Q = Quantity represented by PF in Mg [ton]
P = Contract price per Mg [ton]
PF = Pay Factor

The maximum Composite Pay Factor for mixes having only a Binder Content and Gradation requirement shall be 1.025.

401.223 Process for Dispute Resolution (Methods A B & C only)

a. Dispute Resolution sampling At the time of Hot-Mix Asphalt sampling, the Department will obtain a split sample of each Acceptance test random sample for possible dispute resolution testing. The Contractor shall also obtain a split sample of the HMA at this same time. If the Contractor wishes to retain the option of requesting dispute testing of the initial Acceptance sample, the Contractor will test their split of the Acceptance sample and shall report their results to the Resident, with a copy to the QA Engineer at the Central Laboratory in Bangor by 7:00 AM, on the second working day from time of QA sampling, otherwise dispute resolution will not be initiated. The Department's dispute resolution split sample will be properly labeled and stored for a period of not more than two weeks, or until the sample is tested.

b. Disputing Acceptance results The Contractor may dispute the Department's Acceptance results and request (Methods A, B, & C) that the dispute resolution split sample be tested by notifying the Department's Resident and the QA Engineer at the Central Laboratory in Bangor in writing within two working days after receiving the results of the Acceptance test. The following shall be provided in the request:

- Acceptance sample reference number
- The specific test result(s) or property(ies) being disputed, and

- The complete, signed report of the Contractor's testing (In a lab certified by the NETTCP and MDOT) of their split of the Acceptance sample indicating that the variances in Table10: Dispute Resolution Variance Limits, for the specific test result(s) or property(ies) were exceeded.

c. Disputable items The Contractor may dispute any or all of the following test results when the difference between the Department's value and the Contractor's value for that test equals or exceeds the corresponding allowable variation in Table 10: Dispute Resolution Variance Limits, PGAB content, G_{mb}, and G_{mm}. In addition, if the allowable variation for these tests is not met or exceeded, the Contractor may dispute either or both of the following material properties provided the difference between results for them equals or exceeds the corresponding allowable variation in Table 10: Voids at N_{design}, and VMA. For Method C only, % passing may only be disputed on sieves which are used for price adjustments

d. Outcome The value of any disputed result or property reported for the initial Acceptance sample shall stand if the value reported for the dispute resolution sample is not closer to the value the Contractor reported for their split sample than to the value reported for the initial Acceptance sample. Otherwise, the value reported for the dispute resolution sample will replace the value reported for the initial Acceptance sample, and will be used to re-calculate any other affected results or properties.

TABLE 10: DISPUTE RESOLUTION VARIANCE LIMITS

PGAB Content	+/-0.4%
G_{mb}	+/-0.030
G_{mm}	+/-0.020
Voids @ N_d	+/-0.8%
VMA	+/-0.8%
Passing 4.75 mm and larger sieves	+/- 4.0%
Passing 2.36 mm to 1.18 mm sieves	+/- 3.0%
Passing 0.60 mm	+/- 2.0 %
Passing 0.30 mm to 0.075 mm sieve	+/- 1.0%

SECTION 402 - PAVEMENT SMOOTHNESS

402.00 Smoothness Projects Projects to have their pavement smoothness analyzed in accordance with this Specification will be so noted in Special Provision 403 - Bituminous Box

402.01 Pavement Smoothness The final pavement surface shall be evaluated for smoothness using a Class I or Class II profiler as defined by ASTM E950 (94). Smoothness measurements will be expressed in terms of the International Roughness Index (IRI) as defined by the World Bank, in units of inches/mile.

402.02 Lot Size Lot size for smoothness will be 1000 lane-meters [3000 lane-feet]. A sublot will consist of 20 lane-meters [50 lane-feet]. Partial lots will be included in the previous lot if less than one-half the size of a normal lot. If greater than one-half the normal lot size, it will be tested as a separate lot.

402.03 Acceptance Testing The Department will conduct Acceptance testing following completion of the surface course. Sections to be excluded from testing include the following:

Bridge decks and joints (no smoothness measurements will be taken within 30 m [100 ft] of bridge joints)
Acceleration and deceleration lanes

Shoulders and ramps
Side streets and roads
Within 30 m [100 ft] of transverse joints at the beginning and end of the project
Within 30 m [100 ft] of railroad crossings
Urban areas with speed limits of 50 kph [30 mph] or lower

Each lot shall have 2 measurements made in each wheel path. The average of the 4 measurements will determine the smoothness for that lot.

The smoothness measurements will be statistically evaluated for pay factors as described in Subsection 106.7 - Quality Level Analysis, using the specification limits shown below.

ACCEPTANCE LIMITS

Level	USL
I	1.10 m/km [70 in/mile]
II	1.25 m/km [80 in/mile]
III	1.40 m/km [90 in/mile]

Computation of Smoothness Pay Adjustment:

PA = (PF-1.0)(Q)(P)
where:
Q = Quantity of surface course in the Lot (excluding shoulders, side streets, bridge decks, ramps, acceleration and deceleration lanes)
PF = smoothness pay factor for the Lot
P = Contract unit price for surface pavement
PA = pay adjustment

402.04 Unacceptable Work In the event that any Lot is found to have a pay factor less than 0.80, the Contractor shall take whatever remedial action is required to correct the pavement surface in that Lot at no additional expense to the Department. Such remedial action may include but is not limited to removal and replacement of the unacceptable pavement. In the event remedial action is necessary, the Contractor shall submit a written plan to the Resident outlining the scope of the remedial work. The Resident must approve this plan before the remedial work can begin. Following remedial work, the Lot shall be retested, and will be subject to the specification limits listed above. The resulting pay factor, if within the acceptable range, will be used in the final pay adjustment. The Contractor shall pay the cost of retesting the pavement following corrective action.

Localized surface tolerance defects will be subject to the provisions outlined in Section 401.101 Surface Tolerances.

Payment will be made under:

Pay Item	Pay Unit
402.10 Incentive/Disincentive - Pavement Smoothness	Lump Sum

SECTION 403 - HOT BITUMINOUS PAVEMENT

403.01 Description This work shall consist of constructing one or more courses of bituminous pavement on an approved base in accordance with these specifications, and in reasonably close conformity with the lines, grades, thickness and typical cross sections shown on the plans or established.

The bituminous pavement shall be composed of a mixture of aggregate, filler if required, and bituminous material.

403.02 General The materials and their use shall conform to the requirements of Section 401 - Hot Mix Asphalt Pavement.

403.03 Construction The construction requirements shall be as specified in Section 401 - Hot Mix Asphalt Pavement.

In addition, hot bituminous pavement placed on bridges shall also conform to the following requirements.

a. The mixture shall be composed of aggregate, PGAB and mineral filler but no recycled asphalt pavement and placed in courses as specified in the Special Provisions.

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

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

d. The Contractor will not be required to cut sample cores from the compacted pavement on the bridge deck.

e. After the top course has been placed, the shoulder areas shall be sealed 1 meter [3 ft] wide with two applications of an emulsified bituminous sealer meeting the requirements of 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 the curb. The area to be sealed shall be clean, dry and the surface shall be at ambient temperature.

f. The furnishing and applying of the required quantity of sealer for the bridge shoulder areas shall be incidental to placing the hot bituminous pavement.

g. The atmospheric temperature for all courses on bridge decks shall be 10°C [50°F] or higher.

403.04 Method of Measurement Hot bituminous pavement will be measured as specified in Section 401.21- Method of Measurement.

403.05 Basis of Payment The accepted quantities of hot bituminous pavement will be paid for at the contract unit price per Megagram [ton] for the bituminous mixtures, including bituminous material complete in place.

Method A, Method B, Method C and Method D shall be used for acceptance as specified in Section 401 - Hot Mix Asphalt Pavements. (See Complementary Notes, Section 403 - Hot Bituminous Pavement, for Method location).

Payment will be made under:

Pay Item		Pay Unit
403.102	Hot Mix Asphalt Pavement for Special Areas	MG [Ton]
403.206	Hot Mix Asphalt, 25 mm Nominal Maximum Size	MG [Ton]
403.207	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	MG [Ton]
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	MG [Ton]
403.209	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals)	MG [Ton]
403.210	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size	MG [Ton]
403.211	Hot Mix Asphalt (shimming)	MG [Ton]
403.212	Hot Mix Asphalt, 4.75 mm Nominal Maximum Size	MG [Ton]
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size, Base	MG [Ton]

SPECIAL PROVISION
SECTION 403
HOT MIX ASPHALT

Desc. of Course	Grad. Design	Item Number	Bit Cont. % of Mix	Total Thick	No. Of Layers	Comp. Notes
			Sand/Salt Shed			
Wearing	9.5mm	403.210	N/A	1 ½"	1	1,4,9,17
Base	19.0mm	403.207	N/A	2 ½ "	1	1,4,9,17
			Loading Ramp			
Base	19.0mm	403.207	N/A	2 "	1	1,4,9,17

COMPLEMENTARY NOTES

1. All work under this contract shall conform to the Standard Specification Revision of 2002 – Section 401-Hot Mix Asphalt Pavement; with the following revisions.

4. The design traffic level for mix placed shall be 0.3 to <3 million ESALS. The design, verification, Quality Control, and acceptance tests for this mix will be performed at 50 Gyrations and shall be a fine sided mix. The contractor may use a 12.5 mm mixture at their option.

9. Section 106.6 Acceptance, (2) Method C - For hot mix asphalt items designated as Method C in Special Provision Section 403 --Hot Mix Asphalt, one sample will be taken from the paver hopper or the truck body per **250** ton, per pay item. The mix will be tested for gradation and PGAB content. Disputes will not be allowed. If the mix is within the tolerances listed in Table 9, below the Department will pay the contract unit price.

Table 9

Property	USL and LSL	
		Method C
Percent Passing 4.75 mm [No. 4] and larger sieves		Target ± 7
Percent Passing 2.36 mm [No. 8] to 1.18 mm [No. 16] sieves		Target ± 5
Percent Passing 0.60 mm [No. 30]		Target ± 4
Percent Passing 0.30 mm {No. 50] to 0.075 mm [No. 200] sieve		Target ± 3
PGAB Content		Target ± 0.5
In –Place Density		Minimum 92.0

If the test results for each **250** ton increment are outside these limits the following deductions (Table 9b) shall apply to the HMA quantity represented by the test. A second consecutive failing test shall result in cessation of production

TABLE 9b

PGAB Content	-5%
2.36 mm sieve	-2%
0.30 mm sieve	-1%
0.075 mm sieve	-2%
In-Place Density	- 5%

17. The Contractor shall cut one 6 inch core per **250** ton per pay item., which shall be tested for percent TMD per AASHTO T-269. If the test result is below 92.0%, the area represented by the test will be isolated and tested separately. A minimum of three cores shall be randomly selected from the isolated area. If the core results from the isolated area average below 92.0 %, the effected area shall be removed and replaced at the expense of the Contractor for the full lane width to the limits determined by the Department..

Tack Coat

A tack coat of emulsified asphalt, RS-1 or HFMS-1, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.025 gal/yd², and on milled pavement approximately 0.05 gal/yd², prior to placing a new course. All joints between existing and new pavement will be tacked. Cleaning objectionable material from the pavement and furnishing and applying Item 409.15 bituminous material to joints and contact surfaces is incidental.

SPECIAL PROVISION
SECTION 403
HOT MIX ASPHALT

403.05 Basis of Payment Delete the first and third paragraphs and replace with the following:

Hot Bituminous Pavement will not be paid for separately but will be incidental to Item related contract items.

409.09 Basis of Payment Delete the section and replace with the following:

Bituminous Tack Coat will not be paid for separately but will be incidental to Item related contract items.

SPECIAL PROVISION
SECTION 656
Temporary Soil Erosion and Water Pollution Control

Standard Specifications, Section 656 is deleted and replaced by this Special Provision.

1. All Work involving earth disturbance shall be in compliance with the Erosion and Sedimentation Control Plan as specified in the site development plans for the Maintenance Facility (PIN 14062.10) Plan Sheets 7, 8, and 11. Any work such as stock piles and laydown areas must be approved by the Maine Department of Transportation.

2. The Contractor shall comply with the requirements of the **Site Location of Development and Natural Resources Protection Act Permit** (December 27, 2005) as applicable.

3. Any costs related to the implementation and maintenance of the erosion and sedimentation control practices shall be incidental to the project.

SPECIAL PROVISION
SECTION 815
Buildings

815.10 Description The work shall consist of the furnishing and construction of the buildings, related structures and site work in accordance with the contract documents.

The Contractor's work shall begin where the existing PIN 14062.10 Topsham Maintenance Site Work Project work ends. The Contractor shall furnish and install a complete approved electrical and water service as required by the structures, including inspection and approval by the utility and local inspection departments.

815.50 Method of Measurement The Sand/Salt Storage Building, including the loading ramp, will be measured for payment as one lump sum, complete in place and accepted.

The Brine/Cold Storage Building including the brine maker system, will be measured for payment as one lump sum, complete in place and accepted.

815.60 Basis of Payment The Sand/Salt Storage Building, including the adjacent loading ramp will be paid for at the contract lump sum price which shall be full compensation for the work indicated on the plans and as called for in the contract, including excavation, compacted fill, labor, equipment and materials for building construction, and connection of the building to utilities installed under site contract, MaineDOT PIN 14602.10 and the excavation, grading and backfill to construct the foundation and floor and other contract related incidentals necessary to complete the work .

The Brine/Cold Storage Building, including the automated brine maker system will be paid for at the contract lump sum price which shall be full compensation for the work indicated on the plans and as called for in the contract, including excavation, compacted fill, labor, equipment and materials for building construction, and connection of the building to utilities installed under site contract, MaineDOT PIN 14602.10 and the excavation, grading and backfill to construct the foundation and floor and other contract related incidentals necessary to complete the work .

Payment will be made under:

	Pay Item	Pay Unit
815.00	Buildings - Sand/Salt Storage Building	Lump Sum
815.00	Buildings - Brine/Cold Storage Building	Lump Sum

SPECIAL PROVISION
Automated Brine Maker

Description The work shall consist of the furnishing and installing an automated brine maker system in accordance with these specifications, the contract documents and in reasonably close conformance with the plans.

General The brine maker system shall be a new and unused downward flow automatic brine production plant system where the salt acts as a filter bed as the water moves down though to sump area and filter screen. The automatic brine production plant system shall be capable of producing 5,000 gallons of brine per hour (based on available water supply of 6,000 gallon /hr and storage tank configuration static discharge of 45ft. / head pressure); flushing out all sediment collected in the bottom of the vessel with salt level full in the tank; be completely automated and be capable of producing brine without the intervention of an operator; and automatically monitor and control brine consistency monitoring during production. The system shall be capable of automatically selecting recycled water or fresh water for supply and be able to be integrated into a vehicle wash system.

Products will be accepted for consideration on any make or model that is equal or superior to the brine production plant system specified. Decisions of equivalency will be at the sole interpretation of the Department. A blanket statement that equipment proposed will meet all requirements will not be sufficient to establish equivalence. Original manufacturer's brochures of the proposed unit are to be submitted with the proposal. All modifications made to the standard production unit described in the manufacturer's brochures must be certified by the manufacturer and submitted for approval. If a bidder proposes equipment that varies from the equipment specified, the bidder must provide, deliver, and retrieve a demonstrator unit similar to the one proposed at no cost to the Department within thirty (30) days of the contract award for an evaluation period of no less than ten (10) business days.

Brine Maker System

1. Salt Hopper

1.1. The salt hopper shall have a minimum capacity of 5 cubic yards.

1.2. The salt hopper shall hold approximately .75 cubic yard of sediment without interfering with brine outlet.

1.3. Minimum inside dumping width shall be no less than 120” inches.

1.4. The hopper shall be constructed of 16,000 lb tensile strength fiberglass & isophthalic resin.

1.5. All inside surfaces shall be coated with a ceramic resin .050” thick.

1.6. Vessel shall have structural integral ribs to limit flex to within 1” from full to empty.

1.7. Overall thickness of fiberglass and resin in the vessel shall be .35” thick, structural areas such as ribs, corners and floor shall have additional layers of woven fiberglass matt for an overall thickness of .50”

1.8. Sediment collection area shall have a 15 degree slope towards a 14”X 14” sump to promote debris clean out.

1.9. For ease and expediency of cleaning, the system shall be capable of being cleaned via a flush mechanism not to exceed (5) minutes and to be accomplished without disassembly of any components of the unit. Units requiring any disassembly of components for clean out shall be deemed unacceptable.

1.10. For ease and expediency of cleaning accumulated sediment, the system shall be capable of being cleaned with the salt hopper full of salt by a process of opening sump outlet cap and water flush valves. Salt hoppers that require dumping of the hopper or trap doors for clean out shall be deemed unacceptable.

1.11. There shall be fresh water flushing system to force sediment to sump and out of sump.

1.12. There shall be a 4” stainless steel bulkhead fitting for clean out with cam lock cap.

1.13. There shall be no air gaps in the vessel areas between sloped floor and mounting feet.

1.14. Areas with a void shall be filled with high-density foam rated for compression strength of 3 PSI with fiberglass coating on the exterior.

1.15. All Valves, bulkhead fittings, etc. 1” and larger shall be manifold type fittings.

1.16. There shall be a pressure transducer connected to the PLC to activate brine pump on and off and water flow into salt holding tank these levels shall be adjustable from the HMI Interface and shall be adjustable to within 1 inch increments.

1.17. Transducer shall have an air capillary to the inside of salt hopper.

1.18. Vessel shall have 2” male cam-lock type fittings and on/off valves for hose connections (fresh water, brine return, brine outlet to pump).

1.19. There shall be reinforced forklift pockets for moving the vessel.

1.20. All metallic items shall be 304 stainless steel.

1.21. Salt hopper shall have a stainless steel debris screen located above the sump and sediment collection area.

1.21.1. The screen shall have 3/16" diameter perforations.

1.21.2. To allow for maximum flow, the debris screen shall be 60 feet square.

1.21.3. Debris screen shall be capable of supporting 10,000 lb of salt evenly distributed across the total area.

1.21.4. Screen frame shall have six permanently attached 3/8" diameter stainless steel eyebolts connected to a poly sling for ease of removal and shall be removed in one piece.

2. Control System

2.1. The control system shall be a continuous brine production control system to be mounted inside a building.

2.2. Main panel shall be constructed of 304-brushed stainless steel with valve labels and valve functions etched into the panel.

2.3. The Brine sensor shall monitor the brine temperature and automatically compensate brine concentration accordingly.

2.4. Brine pumped from the salt hopper shall be monitored for salt concentration.

2.5. Brine concentration sensors shall be TERODIAL type conductivity sensor.

2.6. All brine exiting the salt hopper shall pass over the brine a concentration sensor that monitors brine between 19.6 and 27.0 % concentration by weight.

2.7. System shall include a 256-color LCD touch screen display. Information on the screen to display shall include, but not be limited to:

2.7.1. Actual brine production concentration in the form of % concentration by weight. <u>For example 23.3%</u>

2.7.2. Gallons of Fresh water used to make brine. <u>For example: Total gallons = 187,324, Gallons of Brine Produced & Salt Used</u>

2.7.3. Self-diagnostic of conductivity sensor. <u>For example: Brine sensor failure</u>

2.7.4. Status of machine operating normal "Automatic Mode" mode along with the status of all electrical components.

2.7.5. Graphic items such as liquid flow, system components, parts manuals, and operational instructions.

2.7.6. Self-diagnostic of electric valves shall indicate if and what valve is not functioning normally and valve status of open or closed.

2.8. Calibration shall be performed from the display located on the face of the machine. Programming parameters shall be password protected.

2.9. There shall be 6 user selectable operating modes (Brine production, Winterization, system test, component rinse, simulation, and default settings)

2.10. The programmable logic controller (PLC) shall have a non-volatile memory with EPROM back up of programming.

2.11. PLC software upgrades of standard programming shall be available for the life of the machine at no charge.

2.12. As the brine concentration is pumped from the salt tank, the brine shall be monitored for the desired concentration. Systems requiring an operator to manually test brine concentration will be deemed unacceptable.

2.13. If the brine concentration is above the target rate, the brine shall be returned to the salt hopper until the correct amount of water is automatically added to the incoming brine to bring product to the desirable concentration.

2.14. Once brine is at an acceptable tolerance is to be + or -. 3% of target concentration the brine is to be diverted to storage tanks.

2.15. In the event that the concentration is below minimum desired concentration, the system shall automatically divert brine to salt tank for a second pass through the salt bed to achieve the desirable concentration.

2.16. The control system shall be configured to accept a signal from a solid-state level sensor located in a storage tank to automatically stop brine production when tank is full. This circuit shall be capable of working with a normally open or closed level device and shall be configurable via operator display.

2.17. Control system shall monitor total gallons of water used, salt used, and brine produced for record keeping.

2.18. The control system shall be programmed with a winterization mode where the system will automatically cycle the brine pump and return the brine to the salt tank. The pump “on” and “off” times shall be programmable to desired parameters via the control panel.

2.19. The control system shall have a component rinse mode that cycles valves and flow system to rinse system out with fresh water at the end of season.

2.20. All valves shall include manual overrides for operation of system in the event of an electrical component failure.

2.21. The system shall be designed with a manual valve counterpart to the electric valve to run parallel for a redundant manual control system.

2.22. The system shall be completely self-diagnostic to include the pump, electrical valve and input signals.

2.23. All electric valves and sensors shall communicate with the controller to confirm the current state.

2.24. In the event of a component failure, the system shall automatically shut down and inform the operator of the specific failure along with a corrective measure, including how to manually override problem and part number failure.

2.25. All wetted parts on control panel except for pump shall manifold type glass filled polypropylene rated for 150 psi.

2.26. Control panel shall be supplied with a 10 ft. S.O. type four-prong cable and plug to an electric supply receptacle. (Required electric supply 30 amp / 220 V / Single phase NEMA L14-30R mating receptacle shall be supplied by the Contractor.

2.27. Electric components mounted onto control panel shall have UL rated conduit protecting connections and wiring outside of the enclosure.

2.28. Individual components over 10A shall have circuit breakers and components less than 10A shall be fuse protected from inside of control panel. Fuses shall have diagnostic LED to detect fuse fault. Fuse falt shall illuminate red.

3. Mechanical Components

3.1. Pump shall be constructed of cast 304 stainless steel with a stainless steel shaft and impeller.

3.2. Electric pump motor shall be thermally protected 3 HP 220 Volt single phases.

3.3. Pump seals shall be constructed of silicon carbide.

3.4. Pump shall be capable of delivering 5,000 gallons per hour of salt brine to storage tanks with a dynamic head of 45 ft.

3.5. All fittings and valves shall be manifold type glass filled polypropylene.

3.6. Wetted Steel components shall be kept to a minimum; all steel components shall be constructed of 304-grade stainless steel

3.7. All exposed eclectic components shall be rated at NEMA 12X.

3.8. 100 Foot of 2” suction / discharge hose shall be supplied with each unit for installation of control panel and salt hopper up to 25 feet apart.

3.9. System shall have 2” cam-lock fittings with mating ends supplied on all connections.

3.10. All fasteners shall be constructed of stainless steel.

4. Fully Automated Remote Truck Mounted Fill Package

4.1. Package shall be two (2) 3-way electric ball valves supplied along with a NEMA 4x switch box with 40 ft. lead to remotely fill trucks with the brine production system and storage tanks at the touch of a button.

4.2. Ball valves will activate pump and divert flow to a discharge hose to fill trucks.

4.3. In the event that the system is producing brine at the same time as filling trucks, the system shall automatically divert brine to the truck fill hose.

4.4. If brine is not being produced then brine from storage tanks shall be diverted to truck fill hose.

5. Tank fitting kit

5.1. Manifold type fitting kit with valve, tee, hose clamps, and hose barbs (note: One unit required for each storage tank)

6. Storage level sensor

6.1. PLC solid state sensor and interconnect kit to connect storage tanks sensor to shut off brine production when storage tank is full

7. Additive Injection System

7.1. The control system shall be capable of automatically injecting a predetermined ratio of brine additive into the finished product tank (0 to 100%).

7.2. There shall be a tank volume sensor to determine if enough additive is available to produce desired volume / ratio of batch

7.3. There shall be a storage tank volume sensor to determine if enough volume is available to produce desired batch / ratio of brine and Additive

7.4. Tank volume Sensors shall be solid state.

7.5. The Control system shall confirm that enough additive is available to produce desired volume / ratio of batch

7.6. The Control system shall confirm that enough storage space is available to hold finished product.

7.7. There shall be a actuated valve to divert brine or additive into the processing pump

7.8. Processing shall be graphically displayed onto HMI (operator display)

7.9. Process shall be self-diagnostic.

8. Warranty

8.1. A full parts and labor warranty shall be provided for the first year or up to 500,000 gallons.

8.2. A parts only warranty shall be provided for the second year or up to 500,000 gallons.

9. Site Preparation

9.1. The Contractor will provide 25 AMP 220 Volt / Single-phase electric supply with neutral and ground leg connected to a (NEMA L14-30R) receptacle within 6 feet of control panel location.

10. Exceptions and Deviations

The Contractor shall fully describe every variance, exception and/or deviation. Additional sheets may be used if required.

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Basis of Payment The accepted automated brine maker system will be considered to be incidental to Item 815.00 Buildings – Brine/Cold Storage.

October 12, 2006
Supersedes August 31, 2006

STANDARD DETAIL UPDATES

Standard Details and Standard Detail updates are available at:
http://www.maine.gov/mdot/contractor-consultant-information/ss_standard_details_updates.php

Detail #	Description	Revision Date
504(15)	Diaphragms	12/30/02
507(04)	Steel Bridge Railing	2/05/03
801(02)	Drives on Non-Sidewalk Sections	4/04/03
526(33)	Concrete Transition Barrier	8/18/03
645(06)	H-Beam Posts – Highway Signing	7/21/04
645(09)	Installation of Type II Signs	7/21/04
626(09)	Electrical Junction Box for Traffic Signals and Lighting	2/25/05
604(01)	Catch Basins	11/16/05
604(05)	Type “A” & “B” Catch Basin Tops	11/16/05
604(06)	Type “C” Catch Basin Tops	11/16/05
604(07)	Manhole Top “D”	11/16/05
604(09)	Catch Basin Type “E”	11/16/05
606(02)	Multiple Mailbox Support	11/16/05
606(07)	Reflectorized Beam Guardrail Delineator Details	11/16/05
609(06)	Vertical Bridge Curb	11/16/05
504(23)	Hand-Hold Details	12/08/05
609(03)	Curb Type 3	6/27/06
609(07)	Curb Type 1	6/27/06
535(01)	Precast Superstructure - Shear Key	10/12/06

535(02)	Precast Superstructure - Curb Key & Drip Notch	10/12/06
535(03)	Precast Superstructure - Shear Key	10/12/06
535(04)	Precast Superstructure - Shear Key	10/12/06
535(05)	Precast Superstructure - Post Tensioning	10/12/06
535(06)	Precast Superstructure - Sections	10/12/06
535(07)	Precast Superstructure - Precast Slab & Box	10/12/06
535(08)	Precast Superstructure - Sections	10/12/06
535(09)	Precast Superstructure - Sections	10/12/06
535(10)	Precast Superstructure - Sections	10/12/06
535(11)	Precast Superstructure - Sections	10/12/06
535(12)	Precast Superstructure - Sections	10/12/06
535(13)	Precast Superstructure - Sections	10/12/06
535(14)	Precast Superstructure - Stirrups	10/12/06
535(15)	Precast Superstructure - Plan	10/12/06
535(16)	Precast Superstructure - Reinforcing	10/12/06
535(17)	Precast Superstructure - Notes	10/12/06

SUPPLEMENTAL SPECIFICATION

(Corrections, Additions, & Revisions to Standard Specifications - Revision of December 2002)

SECTION 101
CONTRACT INTERPRETATION

101.2 Definitions

Closeout Documentation Replace the sentence "A letter stating the amount….. DBE goals." with "DBE Goal Attainment Verification Form"

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

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

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

SECTION 102
DELIVERY OF BIDS

102.7.1 Location and Time Add the following sentence "As a minimum, the Bidder will submit a Bid Package consisting of the Notice to Contractors, the completed Acknowledgement of Bid Amendments form, the completed Schedule of Items, 2 copies of the completed Agreement, Offer, & Award form, a Bid Bond or Bid Guarantee, and any other Certifications or Bid Requirements listed in the Bid Book."

102.11.1 Non-curable Bid Defects Replace E. with "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 Department."

SECTION 103
AWARD AND CONTRACTING

103.3.1 Notice and Information Gathering Change the first paragraph to read as follows: "After Bid Opening and as a condition for Award of a Contract, the Department may require an Apparent Successful Bidder to demonstrate to the Department's satisfaction that the Bidder is responsible and qualified to perform the Work."

SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

104.3.14 Interpretation and Interpolation In the first sentence, change "…and Geotechnical Information." to "…Environmental Information, and Geotechnical Information."

Delete the entire Section 104.5.9 and replace with the following:

104.5.9 Landscape Subcontractors The Contractor shall retain only Landscape Subcontractors that are certified by the Department's Environmental Office Landscape Unit.

SECTION 105
GENERAL SCOPE OF WORK

Delete the entire Section 105.6 and replace with the following:

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

105.6.2 Contractor Provided Services Utilizing the survey information and points provided by the Department, described in Subsection 105.6.1, Department Provided Services, the Contractor shall provide all additional survey layout necessary to complete the Work. This may include, but not be limited to, reestablishing all points provided by the Department, 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 Facilities relocations and adjustments as necessary to complete the Work. When the Work is to connect with existing Structures, the Contractor shall verify all dimensions before proceeding with the Work. The Contractor shall employ or retain competent engineering and/or surveying personnel to fulfill these responsibilities.

The Contractor must notify the Department of any errors or inconsistencies regarding the data and layout provided by the Department as provided by Section 104.3.3 - Duty to Notify Department If Ambiguities Discovered.

105.6.2.1 Survey 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 of checks may be required if significant discrepancies are discovered in this process. Construction survey layout quality control also requires written documentation of

the layout process such that the process can be followed and repeated, if necessary, by an independent survey crew.

105.6.3 Survey Quality Assurance It is the Department's prerogative to perform construction survey quality assurance. Construction survey quality assurance may, or may not, be performed by the Department. 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 Department elects to physically check the Contractor's survey layout, the Contractor's designated surveyor may be required to be present. The Department 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 Department.

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

SECTION 106
QUALITY

106.4.3 Testing Change the first sentence in paragraph three from "…maintain records of all inspections and tests." to "…maintain original documentation of all inspections, tests, and calculations used to generate reports."

106.6 Acceptance Add the following to paragraph 1 of A: "This includes Sections 401 - Hot Mix Asphalt, 402 - Pavement Smoothness, and 502 - Structural Concrete - Method A - Air Content."

Add the following to the beginning of paragraph 3 of A: "For pay factors based on Quality Level Analysis, and"

106.7.1 Standard Deviation Method Add the following to F: "Note: In cases where the mean of the values is equal to either the USL or the LSL, then the PWL will be 50 regardless of the computed value of s."

Add the following to H: "Method C Hot Mix Asphalt: PF = [55 + (Quality Level *0.5)] * 0.01"

SECTION 107
TIME

107.3.1 General Add the following: "If a Holiday occurs on a Sunday, the following Monday shall be considered a Holiday. Sunday or Holiday work must be approved by the Department,

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 Department's approval."

107.7.2 Schedule of Liquidated Damages Replace the table of Liquidated Damages as follows:

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

SECTION 108
PAYMENT

108.4 Payment for Materials Obtained and Stored First paragraph, second sentence, delete the words "…Delivered on or near the Work site at acceptable storage places."

SECTION 109
CHANGES

109.1.1 Changes Permitted Add the following to the end of the paragraph: "There will be no adjustment to Contract Time due to an increase or decrease in quantities, compared to those estimated, except as addressed through Contract Modification(s)."

109.1.2 Substantial Changes to Major Items Add the following to the end of the paragraph: "Contract Time adjustments may be made for substantial changes to Major Items when the change affects the Critical Path, as determined by the Department"

109.4.4 Investigation / Adjustment Third sentence, delete the words "subsections (A) - (E)"

109.5.1 Definitions - Types of Delays

B. Compensable Delay Replace (1) with the following; "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."

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

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

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

2. Costs for Materials.

3. A 15 % markup on the totals of Items 1 and 2 of this subsection 109.7.3 for home office overhead and profit of the Contractor, its Subcontractors and suppliers, and any lower tier Subcontractors or suppliers, with no mark-ups on mark-ups.

4. Cost for Equipment, based on Blue Book Rates or leased rates, as set forth in Section 109.7.5(C), or the Contractor's Actual Costs if determined by the Department to be lower.
5. Costs for extended job-site overhead.
6. Time.

7. Subcontractor quoted Work, as set forth below in Section 109.7.5 (F)."

109.7.5 Force Account Work

C. Equipment

Paragraph 2, delete sentence 1 which starts; "Equipment leased…."

Paragraph 6, change sentence 2 from "The Contractor may furnish…" to read "If requested by the Department, the Contractor will produce cost data to assist the Department 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."
Add the following paragraph; "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."

Add the following section;

"F. Subcontractor Quoted Work When accomplishing Force Account Work that utilizes Subcontractors, the Contractor will be allowed a maximum markup of 5% for profit and overhead on the Subcontractor's portion of the Force Account Work."

SECTION 110
INDEMNIFICATION, BONDING, AND INSURANCE

Delete the entire Section 110.2.3 and replace with the following:

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

The bond shall be in the full amount for all Pay Items for work pursuant to Sec 621, Landscape, payable to the "Treasurer - State of Maine," and on the Department's forms, on exact copies thereof, or on forms that do not contain any significant variations from the Department's forms as solely determined by the Department.

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 described in Special Provision 621.0036 - Establishment Period. If the Surety becomes financially insolvent, ceases to be licensed or approved to do business in the State of Maine, or stops operating in the United States, the Contractor shall file new bonds complying with this Section within 10 Days of the date the Contractor is notified or becomes aware of such change.

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

By issuing a bond, the Surety agrees to be bound by all terms of the Contract, including those related to payment, time for performance, quality, warranties, and the Department's self-help remedy 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 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.

SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS

202.02 Removing Buildings Make the following change to the last sentence in the final paragraph, change "…Code of Maine Regulations 401." to "…Department of Environmental Protection Maine Solid Waste Management Rules, 06-096 CMR Ch. 401, Landfill Siting, Design and Operation."

SECTION 203
EXCAVATION AND EMBANKMENT

203.01 Description Under b. Rock Excavation; add the following sentence: "The use of perchlorate is not allowed in blasting operations."

SECTION 502
STRUCTURAL CONCRETE

502.05 Composition and Proportioning; TABLE #1; NOTE #2; third sentence; Change "…alcohol based saline sealer…" to "alcohol based silane sealer…". Add NOTE #6 to Class S Concrete.

502.0502 Quality Assurance Method A - Rejection by Resident Change the first sentence to read: "For an individual sublot with test results failing to meet the criteria in Table #1, or if the calculated pay factor for Air Content is less than 0.80……"

502.0503 Quality Assurance Method B - Rejection by Resident Change the first sentence to read: "For material represented by a verification test with test results failing to meet the criteria in Table #1, the Department will……"

502.0505 Resolution of Disputed Acceptance Test Results Combine the second and third sentence to read: "Circumstances may arise, however, where the Department may ……"
502.10 Forms and False work

D. Removal of Forms and False work 1., First paragraph; first, second, and third sentence; replace "forms" with "forms and false work"

502.11 Placing Concrete

G. Concrete Wearing Surface and Structural Slabs on Precast Superstructures Last paragraph; third sentence; replace "The temperature of the concrete shall not exceed 24° C [75° F} at the time of placement." with "The temperature of the concrete shall not exceed 24° C [75° F} at the time the concrete is placed in its final position."

502.15 Curing Concrete First paragraph; replace the first sentence with the following; "All concrete surfaces shall be kept wet with clean, fresh water for a curing period of at least 7 days after concrete placing, with the exception of vertical surfaces as provided for in Section 502.10 (D) - Removal of Forms and False work."

Second paragraph; delete the first two sentences.

Third paragraph; delete the entire paragraph which starts "When the ambient temperature…."

Fourth paragraph; delete "approved" to now read "…continuously wet for the entire curing period…"

Fifth paragraph; second sentence; change "…as soon as it is possible to do so without damaging the concrete surface." to "…as soon as possible."

Seventh paragraph; first sentence; change "…until the end of the curing period." to "…until the end of the curing period, except as provided for in Section 502.10(D) - Removal of Forms and False work."

502.19 Basis of Payment First paragraph, second sentence; add "pier nose armor" to the list of items included in the contract price for concrete.

SECTION 503
REINFORCING STEEL

503.06 Placing and Fastening Change the second paragraph, first sentence from: "All tack welding shall be done in accordance with Section 504, Structural Steel." to "All tack welding shall be done in accordance with AWS D1.4 Structural Welding Code - Reinforcing Steel."

SECTION 504
STRUCTURAL STEEL

504.09 Facilities for Inspection Add the follow as the last paragraph: "Failure to comply with the above requirements will be consider to be a denial to allow access to work by the Contractor. The Department will reject any work done when access for inspection is denied."

504.18 Plates for Fabricated Members Change the second paragraph, first sentence from: "…ASTM A 898/A 898 M…" to "…ASTM A 898/A 898 M or ASTM A 435/A 435 M as applicable and…"

504.31 Shop Assembly Add the following as the last sentence: "The minimum assembly length shall include bearing centerlines of at least two substructure units."

504.64 Non Destructive Testing-Ancillary Bridge Products and Support Structures Change the third paragraph, first sentence from "One hundred percent…" to "Twenty five percent…"

SECTION 535
PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

535.02 Materials Change "Steel Strand for Concrete Reinforcement" to "Steel Strand." Add the following to the beginning of the third paragraph; "Concrete shall be Class P conforming to the requirements in this section. 28 day compressive strength shall be as stated on the plans. Coarse aggregate…."

535.05 Inspection Facilities Add the follow as the last paragraph: "If the above requirements are not met, the Contractor shall be considered to be in violation of Standard Specification 104.2.5 – Right to Inspect Work. All work occurring during a violation of this specification will be rejected."

535.26 Lateral Post-Tensioning Replace the first paragraph; "A final tension…" with "Overstressing strands for setting losses cannot be accomplished for chuck to chuck lengths of 7.6 m [25 ft] and less. In such instances, refer to the Plans for all materials and methods. Otherwise, post-tensioning shall be in accordance with PCI standards and shall provide the anchorage force noted in the Plans. The applied jacking force shall be no less than 100% of the design jacking force."

SECTION 603
PIPE CULVERTS AND STORM DRAINS

603.0311 Corrugated Polyethylene Pipe for Option III Replace the Minimum Mandrel Diameter Table with the following:

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

SECTION 604
MANHOLES, INLETS, AND CATCH BASINS

604.02 Materials Add the following:

"Tops and Traps	712.07
Corrugated Metal Units	712.08
Catch Basin and Manhole Steps	712.09"

SECTION 605
UNDERDRAINS

605.05 Underdrain Outlets Make the following change:

In the first paragraph, second sentence, delete the words "metal pipe".

SECTION 606
GUARDRAIL

606.02 Materials Delete the entire paragraph which reads "The sole patented supplier of multiple mailbox…." and replace with "Acceptable multiple mailbox assemblies shall be listed on the Department's Approved Products List and shall be NCHRP 350 tested and approved."
Delete the entire paragraph which reads "Retroreflective beam guardrail delineators…." and replace with "Reflectorized sheeting for Guardrail Delineators shall meet the requirements of Section 719.01 - Reflective Sheeting. Delineators shall be fabricated from high-impact, ultraviolet and weather resistant thermoplastic.

606.09 Basis of Payment First paragraph; delete the second and third sentence in their entirety and replace with "Butterfly-type guardrail reflectorized delineators shall be mounted on all W-beam guardrail at an interval of every 10 posts [62.5 ft] on tangents sections and every 5 posts [31.25 ft] on curved sections as directed by the Resident. On divided highways, the delineators shall be yellow on the left hand side and silver/white on the right hand side. On two-way

roadways, the delineators shall be silver/white on the right hand side. All delineators shall have retroreflective sheeting applied to only the traffic facing side. Reflectorized guardrail delineators will not be paid for directly, but will be considered incidental to the guardrail items."

SECTION 609
CURB

609.04 Bituminous Curb f., Delete the requirement "Color Natural (White)"

SECTION 615
LOAM

615.02 Materials Make the following change:

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

SECTION 618
SEEDING

618.01 Description Change the first sentence to read as follows: "This work shall consist of furnishing and applying seed ….." Also remove ",and cellulose fiber mulch" from 618.01(a).
618.03 Rates of Application In 618.03(a), remove the last sentence and replace with the following: "These rates shall apply to Seeding Method 2, 3, and Crown Vetch."

In 618.03(c) "1.8 kg [4 lb]/unit." to "1.95 kg [4 lb]/unit."

618.09 Construction Method In 618.09(a) 1, sentence two, replace "100 mm [4 in]" with "25 mm [1 in] (Method 1 areas) and 50 mm [2 in] (Method 2 areas)"

618.15 Temporary Seeding Change the Pay Unit from Unit to Kg [lb].

SECTION 620
GEOTEXTILES

620.03 Placement Section (c)
Title: Replace "Non-woven" in title with "Erosion Control".
First Paragraph: Replace first word "Non-woven" with "Woven monofilament".
Second Paragraph: Replace second word "Non-woven" with "Erosion Control".

620.07 Shipment, Storage, Protection and Repair of Fabric Section (a)
Replace the second sentence with the following: "Damaged geotextiles, as identified by the Resident, shall be repaired immediately."

620.09 Basis of Payment
Pay Item 620.58: Replace "Non-woven" with "Erosion Control"

Pay Item 620.59: Replace "Non-woven" with "Erosion Control"

SECTION 621
LANDSCAPING

621.0036 Establishment Period In paragraph 4 and 5, change "time of Final Acceptance" to "end of the period of establishment". In Paragraph 7, change "Final Acceptance date" to ""end of the period of establishment" and change "date of Final Acceptance" to "end of the period of establishment".

SECTION 626
HIGHWAY SIGNING

626.034 Concrete Foundations Add to the following to the end of the second paragraph: "Pre-cast and cast-in-place foundations shall be warranteed against leaning and corrosion for two years after the project is completed. If the lean is greater than 2 degrees from normal or the foundation is spalling within the first two years, the Contractor shall replace the foundation at no extra cost."

SECTION 627
PAVEMENT MARKINGS

627.10 Basis of Payment Add to the following to the end of the third paragraph: "If allowed by Special Provision, the Contractor may utilize Temporary Bi-Directional Yellow and White(As required) Delineators as temporary pavement marking lines and paid for at the contract lump sum price. Such payment will include as many applications as required and removal."

SECTION 637
DUST CONTROL

637.06 Basis of Payment Add the following after the second sentence of the third paragraph: "Failure by the Contractor to follow Standard Specification or Special Provision - Section 637 and/or the Contractor's own Soil Erosion and Pollution Control Plan concerning Dust Control and/or the Contractor's own Traffic Control Plan concerning Dust Control and/or visible evidence of excessive dust problems, as determined by the Resident, will result in a reduction in payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department's Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item. Additional penalties may also be assessed in accordance with Special Provision 652 - Work Zone Traffic Control and Standard Specification 656 - Temporary Soil Erosion and Water Pollution Control."

SECTION 639
ENGINEERING FACILITIES

639.04 Field Offices Change the forth to last paragraph from: "The Contractor shall provide a fully functional desktop copier…" to "….desktop copier/scanner…"

SECTION 652
MAINTENANCE OF TRAFFIC

652.2.3 Flashing Arrow Board Delete the existing 5 paragraphs and replace with the following: Flashing Arrow Panels (FAP) must be of a type that has been submitted to AASHTO's National Transportation Product Evaluation Program (NTPEP) for evaluation and placed on the Maine Department of Transportations' Approved Products List of Portable Changeable Message Signs & Flashing Arrow Panels.

FAP units shall meet requirements of the current Manual on Uniform Traffic Control Devices (MUTCD) for Type "C" panels as described in Section 6F.56 - Temporary Traffic Control Devices. An FAP shall have matrix of a minimum of 15 low-glare, sealed beam, Par 46 elements capable of either flashing or sequential displays as well as the various operating modes as described in the MUTCD, Chapter 6-F. If an FAP consisting of a bulb matrix is used, each element should be recess-mounted or equipped with an upper hood of not less than 180 degrees. The color presented by the elements shall be yellow.

FAP elements shall be capable of at least a 50 percent dimming from full brilliance. Full brilliance should be used for daytime operation and the dimmed mode shall be used for nighttime operation. FAP shall be at least 2.4 M x 1.2 M [96" x 48"] and finished in non-reflective black. The FAP shall be interpretable for a distance not less than 1.6 km [1 mile].

Operating modes shall include, flashing arrow, sequential arrow, sequential chevron, flashing double arrow, and flashing caution. In the three arrow signals, the second light from the arrow point shall not operate.

The minimum element on-time shall be 50 percent for the flashing mode, with equal intervals of 25 percent for each sequential phase. The flashing rate shall be not less than 25 nor more than 40 flashes per minute. All on-board circuitry shall be solid state.

Primary power source shall be 12 volt solar with a battery back-up to provide continuous operation when failure of the primary power source occurs, up to 30 days with fully charged batteries. Batteries must be capable of being charged from an onboard 110 volt AC power source and the unit shall be equipped with a cable for this purpose.

Controller and battery compartments shall be enclosed in lockable, weather-tight boxes.
The FAP shall be mounted on a pneumatic-tired trailer or other suitable support for hauling to various locations, as directed. The minimum mounting height of an arrow panel should be 2.1 M [7 feet] from the roadway to the bottom of the panel.

The face of the trailer shall be delineated on a permanent basis by affixing retro-reflective material, known as conspicuity material, in a continuous line as seen by oncoming drivers.

A portable changeable message sign may be used to simulate an arrow panel display."

652.2.4 Other Devices Delete the last paragraph and add the following:
"652.2.5 Portable Changeable Message Sign Trailer mounted Portable Changeable Message Signs (PCMS) 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. The PCMS unit shall meet or exceed the current specifications of the Manual on Uniform Traffic Control Devices (MUTCD), 6F.55.

The front face of the sign should be covered with a low-glare protective material. The color of the LED elements shall be amber on a black background. The PCMS should be visible from a distance of 0.8 km [0.5 mile] day and night and have a minimum 15º viewing angle. Characters must be legible from a distance of at least 200 M [650 feet].

The message panel should have adjustable display rates (minimum of 3 seconds per phase), so that the entire message can be read at least twice at the posted speed, the off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed. Each message shall consist of either one or two phases. A phase shall consist of up to eight characters per line. The unit must be capable of displaying at least three lines of text with eight characters per line. Each character shall be 457 mm [18"] high. Each character module shall use at least a five wide and seven high pixel matrix. The text of the messages shall not scroll or travel horizontally or vertically across the face of the sign.

Units shall automatically adjust their brightness under varying light conditions to maintain legibility.

The control system shall include a display screen upon which messages can be reviewed before being displayed on the message sign. The control system shall be capable of maintaining memory when power is unavailable. Message must be changeable with either a notebook computer or an on-board keypad. The controller shall have the capability to store a minimum of 200 user-defined and 200 pre-programmed messages. Controller and battery compartments shall be enclosed in lockable, weather-tight boxes.

PCMS units shall have the capability of being made programmable by means of wireless communications. PCMS units shall also be fully capable of having an on-board radar system installed if required for a particular application.

PCMS' primary power source shall be solar with a battery back-up to provide continuous operation when failure of the primary power source occurs. Batteries must be capable of being charged from a 110 volt AC power source. The unit must also be capable of being operated solely from a 110 volt AC power source and be equipped with a cable for this purpose.

The PCMS shall be mounted on a trailer in such a way that the bottom of the message sign panel shall be a minimum of 2.1 M [7 ft] above the roadway in urban areas and 1.5 M [5 ft] above the roadway in rural areas when it is in the operating mode. PCMS trailers should be of a heavy duty type with a 51 mm [2"] ball hitch and a minimum of four leveling jacks (at each corner). The sign shall be capable of being rotated 360° relative to the trailer. 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."

652.3.3 Submittal of Traffic Control Plan In item e. change "A list of all certified flaggers…" to "A list of all the Contractor's certified flaggers…"

In the last paragraph add the following as the second sentence: "The Department will review and provide comments to the Contractor within 14 days of receipt of the TCP."

652.3.5 Installation of Traffic Control Devices In the first paragraph, first sentence; change "Signs shall be erected…" to "Portable signs shall be erected.." In the third sentence; change "Signs must be erected so that the sign face…" to "Post-mounted signs must also be erected so that the sign face…"

652.4 Flaggers Replace the first paragraph with the following; "The Contractor shall furnish flaggers as required by the TCP or as otherwise specified by the Resident. All flaggers must have successfully completed a flagger test approved by the Department and administered by a Department-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 107-1999 Class 2 risk exposure and clearly identify the wearer as a person, shall be visible at a minimum distance of 300 m [1000 ft], and shall wear a hardhat with retroreflectivity. For nighttime conditions, Class 3 apparel should be considered, retroreflective or flashing SLOW/STOP paddles shall be used, and except in emergency situations the flagger station shall be illuminated to assure visibility."

Second paragraph, first sentence; change "…have sufficient distance to stop before entering the workspace." to "…have sufficient distance to stop at the intended stopping point." Third sentence; change "At a spot obstruction…" to "At a spot obstruction with adequate sight distance,…"

Fourth paragraph, delete and replace with "Flaggers shall be provided as a minimum, a 10 minute break, every 2 hours and a 30 minute or longer lunch period away from the work station. Flaggers may only receive 1 unpaid break per day; all other breaks must be paid. Sufficient certified flaggers shall be available onsite to provide for continuous flagging operations during break periods. Breaker flaggers will not be paid for separately, but shall be considered incidental to the appropriate pay item."

652.8.2 Other Items Replace the last paragraph with the following: "There will be no payment made under any 652 pay items after the expiration of the adjusted total contract time."

SECTION 653
POLYSTYRENE PLASTIC INSULATION

653.05 Placing Backfill In the second sentence; change "…shall be not less than 150 mm [6 in] loose measure." to "…shall be not less than 250 mm [10 in] loose measure." In the third sentence; change "…crawler type bulldozer of not more than 390 kg/m^2 [80 lb/ft^2] ground contact pressure…" to "…crawler type bulldozer of not more than 4875 kg/m^2 [2000 lb/ft^2] ground contact pressure…"

653.06 Compaction In the last sentence; change "…not more than 390 kg/m^2 [80 lb/ft^2] ground contact…" to "…not more than 4875 kg/m^2 [2000 lb/ft^2] ground contact…"

SECTION 656
TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

656.5.1 If Pay Item 656.75 Provided Replace the second paragraph with the following: "Failure by the Contractor to follow Standard Specification or Special Provision - Section 656 and/or the Contractor's own Soil Erosion and Pollution Control Plan will result in a reduction in payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department's Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item."

SECTION 701
STRUCTURAL CONCRETE RELATED MATERIALS

701.10 Fly Ash - Chemical Requirements Change all references from "ASTM C311" to "ASTM C114".

SECTION 703
AGGREGATES

703.05 Aggregate for Sand Leveling Change the percent passing the 9.5 mm [3/8 in] sieve from "85 – 10" to "85 – 100"

703.06 Aggregate for Base and Subbase Delete the first paragraph: "The material shall have…" and replace with "The material shall have a minimum degradation value of 15 as determined by Washington State DOT Test Method T113, Method of Test for Determination of Degradation Value (March 2002 version), except that the reported degradation value will be the result of testing a single specimen from that portion of a sample that passes the 12.5 mm [½ in] sieve and is retained on the 2.00 mm [No. 10] sieve, minus any reclaimed asphalt pavement used."

703.07 Aggregates for HMA Pavements Delete the forth paragraph: "The composite blend shall have…" and replace with "The composite blend, minus any reclaimed asphalt pavement used, shall have a Micro-Deval value of 18.0 or less as determined by AASHTO T 327. In the event the material exceeds the Micro Deval limit, a Washington Degradation test shall be performed. The material shall be acceptable if it has a value of 30 or more as determined by Washington State DOT Test Method T 113, Method of Test for Determination of Degradation Value (March 2002 version) except that the reported degradation value will be the result of testing a single composite specimen from that portion of the sample that passes the 12.5mm [1/2 inch] sieve and is retained on the 2.00mm [No 10] sieve, minus any reclaimed asphalt pavement used."

703.18 Common Borrow Replace the first paragraph with the following: "Common borrow shall consist of earth, suitable for embankment construction. It shall be free from frozen material, perishable rubbish, peat, and other unsuitable material including material currently or

previously contaminated by chemical, radiological, or biological agents unless the material is from a DOT project and authorized by DEP for use."

703.22 Underdrain Backfill Material Change the first paragraph from "…for Underdrain Type B…" to "…for Underdrain Type B and C…"

SECTION 706
NON-METALLIC PIPE

706.06 Corrugated Polyethylene Pipe for Underdrain, Option I and Option III Culvert Pipe Change the first sentence from "…300 mm diameters to 900 mm" to "…300 mm diameters to 1200 mm" Delete, in it's entirety, the last sentence which begins "This pipe and resins…" and replace with the following; "The manufacturing plants of polyethylene pipe shall be certified by the Eastern States Consortium. Polyethylene pipe shall be accepted based on third party certification by the AASHTO's National Transportation Product Evaluation Program."

SECTION 709
REINFORCING STEEL AND WELDED STEEL WIRE FABIC

709.03 Steel Strand Change the second paragraph from "…shall be 12mm [½ inch] AASHTO M203M/M203 (ASTM A416/A416M)…" to "…shall be 15.24 mm [0.600 inch] diameter AASHTO M203 (ASTM A416)…"

SECTION 710
FENCE AND GUARDRAIL

710.03 Chain Link Fabric Add the following sentence: "Chain Link fabric for PVC coated shall conform to the requirements of AASHTO M181, Type IV-Class B."

710.07 Guardrail Posts Section b. change "…AASHTO M183/M183M…" to "…AASHTO M 270M/M 270 Grade 250 (36)…"

SECTION 712
MISCELLANEOUS HIGHWAY MATERIALS

712.06 Precast Concrete Units In the first paragraph, change "…ASTM C478M…" to "…AASHTO M199…" Delete the second paragraph and replace with the following; "Approved structural fibers may be used as a replacement of 6 x 6 #10 gauge welded wire fabric when used at an approved dosage rate for the construction of manhole and catch basin units. The material used shall be one of the products listed on the Maine Department of Transportation's Approved Product List of Structural Fiber Reinforcement." Delete the fifth paragraph and replace with the following; "The concrete mix design shall be approved by the Department. Concrete shall contain 6% air content, plus or minus 1½% tolerance when tested according to AASHTO T152. All concrete shall develop a minimum compressive strength of 28 MPa [4000 psi] in 28 days when tested according to AASHTO T22. The absorption of a specimen, when tested according to AASHTO T280, Test Method "A", shall not exceed nine percent of the dry mass."

Add the following:
"712.07 Tops, and Traps These metal units shall conform to the plan dimensions and to the following specification requirements for the designated materials.

Gray iron or ductile iron castings shall conform to the requirements of AASHTO M306 unless otherwise designated.

712.08 Corrugated Metal Units The units shall conform to plan dimensions and the metal to AASHTO M36/M36M. Bituminous coating, when specified, shall conform to AASHTO M190 Type A.

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

(a) Aluminum steps-ASTM B221M, [ASTM B211] Alloy 6061-T6 or 6005-T5.

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

712.23 Flashing Lights Flashing Lights shall be power operated or battery operated as specified.

(a) Power operated flashing lights shall consist of housing, adapters, lamps, sockets, reflectors, lens, hoods and other necessary equipment designed to give clearly visible signal indications within an angle of at least 45 degrees and from 3 to 90 m [10 to 300 ft] under all light and atmospheric conditions.

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

The lamps shall be 650 lumens, 120 volt traffic signal lamps with sockets constructed to properly focus and hold the lamp firmly in position.
The housing shall have a rotatable sun visor not less than 175 mm [7 in] in length designed to shield the lens.

Reflectors shall be of such design that light from a properly focused lamp will reflect the light rays parallel. Reflectors shall have a maximum diameter at the point of contact with the lens of approximately 200 mm [8 in].

The lens shall consist of a round one-piece convex amber material which, when mounted, shall have a visible diameter of approximately 200 mm [8 in]. They shall distribute light and not diffuse it. The distribution of the light shall be asymmetrical in a downward direction. The light distribution of the lens shall not be uniform, but shall consist of a small high intensity portion with narrow distribution for long distance throw and a larger low intensity portion with wide distribution for short distance throw. Lenses shall be marked to indicate the top and bottom of the lens.

(b) Battery operated flashing lights shall be self- illuminated by an electric lamp behind the lens. These lights shall also be externally illuminated by reflex-reflective elements built into the lens to enable it to be seen by reflex-reflection of the light from the headlights of oncoming traffic. The batteries must be entirely enclosed in a case. A locking device must secure the case. The light shall have a flash rate of not less than 50 nor more than 60 flashes per minute from minus 30 °C [minus 20 °F] to plus 65 °C [plus 150 °F]. The light shall have an on time of not less than 10 percent of the flash cycle. The light beam projected upon a surface perpendicular to the axis of the light beam shall produce a lighted rectangular projection whose minimum horizontal dimension shall be 5 degrees each side of the horizontal axis. The effective intensity shall not have an initial value greater than 15.0 candelas or drop below 4.0 candelas during the first 336 hours of continuous flashing. The illuminated lens shall appear to be uniformly bright over its entire illuminated surface when viewed from any point within an angle of 9 degrees each side of the vertical axis and 5 degrees each side of the horizontal axis. The lens shall not be less than 175 mm [7 in] in diameter including a reflex-reflector ring of 13 mm [½ in] minimum width around the periphery. The lens shall be yellow in color and have a minimum relative luminous transmittance of 0.440 with a luminance of 2854° Kelvin. The lens shall be one-piece construction. The lens material shall be plastic and meet the luminous transmission requirements of this specification. The case containing the batteries and circuitry shall be constructed of a material capable of withstanding abuse equal to or greater than 1.21 mm thick steel [No. 18 U.S. Standard Gage Steel]. The housing and the lens frame, if of metal shall be properly cleaned, degreased and pretreated to promote adhesion. It shall be given one or more coats of enamel which, when dry shall completely obscure the metal. The enamel coating shall be of such quality that when the coated case is struck a light blow with a sharp tool, the paint will not chip or crack and if scratched with a knife will not powder. The case shall be so constructed and closed as to exclude moisture that would affect the proper operation of light. The case shall have a weep hole to allow the escape of moisture from condensation. Photoelectric controls, if provided, shall keep the light operating whenever the ambient light falls below 215 lx [20 foot candles]. Each light shall be plainly marked as to the manufacturer's name and model number.

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

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

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

712.34 Non-metallic Pipe, Rigid Non-metallic pipe shall be Schedule 40 polyvinylchloride (PVC) that meets the requirement of ASTM D1785. Fittings shall be of the same material.

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

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

712.35 Epoxy Resin Epoxy resin for grouting or sealing shall consist of a mineral filled thixotropic, flexible epoxy resin having a pot life of approximately one hour at 10°C [50°F]. The grout shall be an approved product suitable for cementing steel dowels into the preformed holes of curb inlets and adjacent curbing. The sealant shall be an approved product, light gray in color and suitable for coating the surface.

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

The mineral constituents of the bituminous mixture shall be sized and graded and combined in a composite blend that will produce a stable durable curbing with an acceptable texture.

Bituminous material for curb shall meet the requirements of Section 403 - Hot Bituminous Pavement.

712.37 Precast Concrete Slab Portland cement concrete for precast slabs shall meet the requirements of Section 502 - Structural Concrete, Class A.

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

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

The granite slabs shall be scabble dressed or sawed to an approximately true plane having no projections or depressions over 13 mm [½ in] under a 600 mm [2 ft] straightedge or over 25 mm [1 in] under a 1200 mm [4 ft] straightedge. The arris at the intersection of the top surface and exposed front face shall be pitched so that the arris line is uniform throughout the length of the installed slabs. The sides shall be square to the exposed face unless the slabs are to be set on a radius or other special condition which requires that the joints be cut to fit, but in any case shall be so finished that when the stones are placed side by side no space more than 20 mm [3/4 in] shall show in the joint for the full exposed height.

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

SECTION 717
ROADSIDE IMPROVEMENT MATERIAL

717.03 C. Method #3 - Roadside Mixture #3 Change the seed proportions to the following:

Crown Vetch	25%
Perennial Lupine	25%
Red Clover	12.5%
Annual Rye	37.5%

717.05 Mulch Binder Change the third sentence to read as follows:

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

SECTION 720
STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS

720.08 U-Channel Posts Change the first sentence from "…, U-Channel posts…" to "…, Rib Back U-Channel posts…"

SECTION 722
GEOTEXTILES

722.01 Stabilization/Reinforcement Geotextile Add the following to note #3; "The strengths specified in the columns labeled"<50%" and "≥ 50%" refer to the elongation at which the geotextile material was tested. For example; if a fabric is tested at 15% elongation then it must meet or exceed the minimum strength shown in the "<50%" column. Submittals must include the percent elongation at which the material was tested."

722.02 Drainage Geotextile Add the following to note #3; "The strengths specified in the columns labeled"<50%" and "≥ 50%" refer to the elongation at which the geotextile material was tested. For example; if a fabric is tested at 15% elongation then it must meet or exceed the minimum strength shown in the "<50%" column. Submittals must include the percent elongation at which the material was tested."

722.01 Erosion Control Geotextile Add the following note to Elongation in the Mechanical Property Table; "The strengths specified in the columns labeled"<50%" and "≥ 50%" refer to the elongation at which the geotextile material was tested. For example; if a fabric is tested at 15% elongation then it must meet or exceed the minimum strength shown in the "<50%" column. Submittals must include the percent elongation at which the material was tested."

Technical Specifications
Prepared for the

Maine Department of Transportation

SAND/SALT STORAGE BUILDING
BRINE/COLD STORAGE BUILDING

TOPSHAM MAINTENANCE FACILITY

July 27, 2007

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Maine Department of Transportation

Sand/Salt Storage Building
Brine / Cold Storage Building

Topsham, Maine

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SECTION 02200

EARTHWORK

PART 1 - GENERAL

1.1 Description of Work

A. Work Included: All excavating, dewatering, filling, backfilling, and removal of materials. Earthwork for utilities is included in this Section.
B. Related Work Specified Elsewhere Includes:
   1. Section 02210 – Slope Protection and Temporary Erosion Control

1.2 Protection

A. Paved Surfaces: Do not operate equipment on paved surfaces. Paved surfaces outside the specified limits of Work that are damaged shall be repaved by the CONTRACTOR at no additional cost to OWNER.
B. Maintain excavations with approved barricades, lights, and signs to protect life and property until excavation is filled and graded to a condition acceptable to the ENGINEER.
C. Protect structures, utilities, sidewalks, pavements, property monuments, monitoring wells, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations. The CONTRACTOR shall be responsible for actual cost of repair or replacement of any items damaged as a result of construction activities. This cost shall include any professional services required for inspection of repairs or replacement.

1.3 Quality Assurance

A. Standards: 29 CFR 1926/1910 - OSHA Safety and Health Standards; Standard Specification for Highways and Bridges, Maine Department of Transportation, current revision.
B. Testing and Inspection: See Section 01416 for general requirements. The OWNER shall be responsible for all quality control testing, unless otherwise noted. The CONTRACTOR shall be responsible for quality control coordinating with ENGINEER to allow for testing to be performed at the frequencies specified. A minimum of 48 hours notice for in-place testing shall be given to allow proper scheduling by ENGINEER.
C. Inspection of Material Sources: The ENGINEER may inspect off-site sources of materials and order tests of these materials to verify compliance with these Specifications.

1.4 Testing Standards

A. Laboratory and Field Testing: Procedures for testing earthwork shall be performed in accordance with the following standards:
   1. Sieve Analysis ..... ASTM D422
   2. Field Density ..... ASTM D2922
   3. Field Moisture Content ..... ASTM D3017
   4. Moisture/Density (Proctor) Tests ..... ASTM D698

1.5 Submittals

A. Material Test Reports: Submit reports on material gradations (sieve analysis) and maximum laboratory moisture density, (proctor).

1.6 Site Conditions

A. CONTRACTOR may make his own borings, hand probes, explorations and observations to determine soil, water and other subsurface conditions at no cost to OWNER. Coordinate with OWNER prior to start of additional investigative work.

B. Existing Utilities: Locate existing underground utilities within limits of Work and provide adequate means of support and protection during earthwork operations, if utilities are indicated to remain in place. Coordinate with utility companies for actual locations and shut-off services, if lines are active. Demolish and completely remove from site existing underground utilities indicated to be removed.

PART 2 - PRODUCTS

2.1 Materials

A. General: All materials utilized for this project shall be obtained from a source approved by ENGINEER. The CONTRACTOR shall be required to submit evidence of compliance with specifications. The CONTRACTOR shall pay for all gradation and proctor testing to prove compliance with specifications. The Department will perform acceptance sampling, testing and inspection and may also perform IA. sample testing.

1. Suitable Materials: Materials complying with ASTM D2487 soil classification groups GW, SM, SW, and SP or AASHTO M145 soil classification groups A-1, A-2-4, A-2-5, and A-3.
2. Unsuitable Materials: Material containing excessive amounts of water, blue or plastic clay, vegetation, organic matter, debris, pavement, stones or boulders greater than 12 inches in any dimension, frozen material, and material which, in the opinion of the ENGINEER, will not provide a suitable foundation or subgrade.
3. On-Site Material: Any suitable material from on-site excavation.
4. Material for embankments and general fills may contain pieces of excavated ledge having a greatest dimension of up to 12 inches, if approved by the ENGINEER.
5. Sieve Analysis: Performed in accordance with ASTM D422-63.

B. Gravel: Hard, durable stone with coarse to fine sand. Sieve analysis by weight:

Sieve Size	Max. % Passing by Weight
3"	100
¼"	25-70
No. 40	0-30
No. 200	0-5

C. ¾" Crushed Stone: Durable, clean angular rock fragments obtained by breaking and crushing rock material. Sieve analysis by weight:

Sieve Size	Max. % Passing by Weight
1"	100
¾"	95-100
½"	35-70
⅜"	0-20
No. 200	0-5

D. Aggregate Base (MDOT 703.06) Type A: Hard durable gravel containing only particles passing the 2

inch sieve. Sieve analysis by weight:

Sieve Size	Max. % Passing by Weight
2"	100
½"	45-70
¼"	30-55
No. 40	0-20
No. 200	0-5

E. Aggregate Base (MDOT 703.06) Type B: Hard durable gravel containing only particles passing the 4 inch sieve. Sieve analysis by weight:

Sieve Size	Max. % Passing by Weight
4"	100
½"	35-75
¼"	25-60
No. 40	0-25
No. 200	0-5

F. Aggregate Base (MDOT 703.06) Type C: Hard durable gravel containing only particles passing the 6 inch sieve. Sieve analysis by weight:

Sieve Size	Max. % Passing by Weight
6"	100
¼"	25-70
No. 40	0-30
No. 200	0-5

G. Aggregate Subbase (MDOT 703.06) Type D: Hard, durable stone with coarse to fine sand containing only particles which will pass a 6" square mesh screen. Sieve analysis by weight for the portion passing the 3" sieve:

Sieve Size	Max. % Passing by Weight
¼"	25-70
No. 40	0-30
No. 200	0-7

H. Sand: Granular material free from organic matter. Sieve analysis by weight:

Sieve Size	Max. % Passing by Weight
1"	100
½"	75-100
No. 4	50-100
No. 20	15-80
No. 50	0-15
No. 200	0-5

I. Select Borrow: Sieve analysis by weight:

Sieve Size	Max. % Passing by Weight
3"	100
1"	95-100
No. 4	75-100
No. 40	50-85
No. 200	30-60

J. Common Borrow: Earth suitable for embankment or general fill construction, free from frozen material, plastic clay, vegetation, perishable rubble, peat and other unsuitable materials. The moisture content shall be sufficient to provide required compaction and stable embankment. In no case shall the moisture content exceed 4% above optimum as determined by ASTM D698.

K. Refill Material: ¾" crushed stone, for refilling excavation below normal grade, rock excavation or refilling excavated unsuitable material, unless otherwise directed by the ENGINEER.

L. Select Backfill: Use gravel or ¾" crushed stone as directed by the ENGINEER.

PART 3 - EXECUTION

3.1 Excavation

A. General: Remove all materials encountered to the limits shown on the Drawing, or designated in the Specifications.

B. Classifications: The following classifications of excavation will be considered incidental to the contract and no separate payment will be made.
   1. Rock Excavation for trenches and pits.
   2. Rock Excavation for open excavation.
   3. Excavation below normal grade.
   4. Select backfill.

C. Earth Excavation: Remove and dispose of pavements and other obstructions visible on ground surface, underground structures and utilities indicated to be demolished and removed, and other materials encountered that are not classified as rock excavation or unauthorized excavation.

D. Excavation for Structures: Conform to elevations and dimensions shown, within a tolerance of ∀0.10', and extending sufficient distance from footings and foundations to permit placing and removal of concrete form work, installation of services, other construction, and for inspection.
While excavating for structures, take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete reinforcement is placed. Trim bottoms to required lines and grades to leave solid base to receive other work. Use shoring and bracing where sides of excavation will not support itself.

E. Rock Excavation for Trenches and Pits: Includes removal and disposal of materials and obstructions encountered that cannot be excavated with modern, track-mounted, heavy-duty excavating equipment without drilling, ripping or blasting; includes boulders larger than 2 cubic yards each. Trenches in excess of 10 feet in width and pits in excess of 30 feet in either length or width are classified as open excavation.

Do not perform rock excavation or excavation of unsuitable materials until material to be excavated has been cross-sectioned and classified by ENGINEER. Predrilling and blasting of bedrock through overburden may be allowed. If this method is used, the rock excavation quantities will be adjusted downward in proportion to the ground swell from this blasting method.

Intermittent drilling or ripping performed to increase production and not necessary to permit excavation of material encountered will be classified as earth excavation.

F. Rock Excavation in Open Excavations: Includes removal and disposal of materials and obstructions encountered not in a trench or pit that cannot be dislodged and excavated with modern, track-mounted, heavy-duty excavating equipment without drilling, blasting, or ripping.

Do not perform rock excavation or excavation of unsuitable materials until material to be excavated has been cross-sectioned and classified by ENGINEER. Intermittent drilling or ripping performed to increase production and not necessary to permit excavation of material encountered will be classified as earth excavation.

G. Rock Payment Limits:
   1. Two feet outside of concrete work for which forms are required, except footings, base slabs, or anti-floatation slabs.
   2. One-and-a-half feet outside perimeter of footings, base slabs, anti-floatation slabs, and manholes (precast concrete and HDPE).
   3. Pipe trenches as shown on Drawings.
   4. Neat outside dimensions of concrete work where no forms are required.

H. Excavation in Paved Areas: Sawcut pavement prior to excavation to provide a clean, uniform edge. Minimize disturbance of remaining pavement. Cut and remove the minimum amount of pavement required to do the work.

I. Excavation for Trenches: Excavate to widths shown on the Drawings and depths indicated or required to establish indicated slope and invert elevations.

Produce an evenly graded, flat trench bottom at the subgrade elevation required for installation of pipe and bedding material.

Place backfill material directly into trench or excavation. Do not stockpile material to be used as backfill along edges of trenches.

J. Unauthorized Excavation: Removal of materials beyond indicated subgrade elevations or dimensions without specific direction of ENGINEER. Unauthorized excavation, refilling shall be at the CONTRACTOR'S expense.

K. Refilling Unauthorized Excavation:
   1. Trenches: Use : ¾" crushed stone as directed by ENGINEER.
   2. Under Concrete Footings: Use concrete of similar strength as structure, see Specification Section 03300.
   3. Elsewhere: Backfill and compact unauthorized excavations as specified for authorized Excavations of same classifications, unless otherwise directed by ENGINEER.

L. Excavation of Unsuitable Materials: When excavation has reached required subgrade elevations, notify ENGINEER to allow for an inspection of conditions. If unsuitable bearing materials are encountered, carry excavations deeper as directed by ENGIINEER and replace excavated material with: ¾" crushed stone.

M. Material Storage: Stockpile and maintain suitable surplus excavated materials for re-use as backfill within the project limits, as directed by ENGINEER. Place, grade and shape stockpiles for proper drainage.

3.2 Stability of Excavations

A. Slope sides of excavations to comply with OSHA Regulations and local codes. Shore and brace where sloping is not possible due to space restrictions or stability of material excavated. Maintain sides and slopes of excavation in safe condition until completion of backfilling.

3.3 Dewatering

A. General: Perform all Work in the dry. Prevent surface water and subsurface or groundwater from flowing uncontrolled into excavations and resulting in the flooding of the Work and surrounding area.
B. Do not allow water to accumulate in excavations. Provide and maintain all necessary pumps, hoses, pipes, well point dewatering system, and all other required components necessary to convey water away from excavations.
C. Convey water removed from excavations and rainwater to collecting or run-off areas. Establish and maintain temporary drainage ditches and other diversions outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.
D. Provide all necessary means to prevent erosion and sedimentation and the discharge of soil matter into a water body.

3.4 Backfill and Fill

A. General: Place acceptable soil material in layers to required elevations as shown on the Drawings. Fill, backfill, and compact to produce minimum subsequent settlement of the material and provide adequate support for the surface treatment or structure to be placed on the material. Place material in horizontal layers, beginning at lowest area to be filled. Do not impair drainage.
B. Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Scarify surfaces so that fill material will bond with existing surface.
C. Placement: Place backfill and fill materials in layers not more than 12 inches in loose depth for material compacted by heavy compaction equipment, and not more than 6 inches in loose depth for material compacted by hand-operated tampers, unless otherwise indicated. Do not place backfill or fill material on surfaces that are wet, frozen, or contain frost or ice.
D. Backfilling Pipe Trenches: Bed pipe in crushed stone. Maintain a minimum of 6 inches of material around piping to obtain an envelope unless otherwise indicated.

3.5 Compaction

A. Methods: Use methods that produce the required degree of compaction throughout the entire depth of material without damaging material that has previously been placed.
B. Degree of Compaction: Compact to the following minimum densities:

Area Classification	Density
Road Base and Subbase.....	95% of max.
Embankments (including slopes).....	92% of max.
Pipe Bedding.....	95% of max.
From invert to 1 foot above pipe.....	95% of max.
Beside Structure walls, manholes, retaining walls, tank walls, etc.(not below structures, embankments, paved areas, etc.)	92% of max.
Below structure floor slabs and footings.....	95% of max.

Maximum Density: ASTM D698 (Standard Proctor)
Field Density Tests: ASTM D2922

C. Testing: testing to be in accordance with State of Maine Standard Specifications, Section 203, Excavation and Embankment.
D. Minimum Number of Tests will be determined by the Department.

3.6 Grading

A. Grading: Uniformly grade areas within limits of grading under this Section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
B. Finish surfaces free from irregular surface changes and shall be finished to required elevation 0.1 feet in 5 feet.
C. Compaction: After grading, compact subgrade surfaces to the percentage of maximum density for

each area classification.

3.7 Maintenance

A. Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.
B. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

3.8 Disposal of Excess Materials

A. Disposal of excess material shall be disposed of off-site in a lawful manner.
B. Keep roads traveled by construction vehicles free of debris. Use suitable watertight vehicles for hauling wet materials over roads and streets. Clean up materials dropped from or spread by construction vehicles promptly or when directed by the ENGINEER.

END OF SECTION

SECTION 02210

TEMPORARY EROSION CONTROL

PART 1 - GENERAL

1.1 Description of Work

A. Provide and maintain devices to control erosion, siltation, sedimentation and dust that occurs during construction operations.
B. Provide measures to control dust caused whether on or off the Project site.
C. Deficiencies in erosion control measures indicated by failures or erosion shall be immediately corrected by providing additional measures or different techniques to correct the situation and prevent subsequent erosion.
D. Install erosion control measures in any ditch, swale or channel before water is allowed to flow in the waterway.
E. Related Work Specified Elsewhere Includes: Section 02200 Earthwork.

1.2 Quality Assurance

A. Standards: Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices.
B. All work involving earth disturbance shall be in compliance with the Erosion and Sedimentation Control Plan as specified in the site development plans for the Maintenance Facility (PIN 14062.10) Plan Sheets 7,8 and 11. Material stock piles and lay down areas must be approved by the Department.
C. The contractor shall comply with the requirements of the Site Location of Development and Natural Resources Protection Act Permit, December 27, 2005 as applicable.
D. All costs related to the implementation and maintenance of erosion and sedimentation control practices shall be incidental to the project.

1.3 Submittals

A. Submit manufacturer's data for all materials to be incorporated into the work.

PART 2 - PRODUCTS

2.1 Materials

A. Acceptable products:
1. Siltation Fence: Mirafi Environfence, Amco 1380 Silt Stop, or approved equivalents.
2. Mulch: Type and use as specified by the Erosion Control Handbook.
a. Long fibered hay or straw in dry condition and which are relatively free of weeds and foreign matter detrimental to plant life.
b. Mulch Binder: asphalt emulsion mulch binder.
3. Temporary Erosion Control Matting:
a. Rolled matting blanket consisting of excelsior wood fiber, jute, straw, or paper bound with a weave of twisted craft paper, cotton cord or plastic mesh.
b. Provide staples for fastening matting to the ground. Staples shall be fabricated in a "U" shape from 11 gage or heavier stiff galvanized steel wire, 6 to 12 inches in length and 1 to 2 inches across.
5. Hay Bales: Rectangular shaped bales of hay or straw weighing at least 40 lbs/bale, free from noxious weed seeds and rough or woody materials.
6. Riprap: Sound, durable rock which will not disintegrate due to exposure to water or weather; angular in shape such as rough, unhewn quarry stone or fragments obtained by blasting, breaking or crushing natural rock. Rounded boulders or cobbles will not be permitted. Flat, platy stones and shale or slate rock with its largest length dimension three times greater than its shortest dimension will not be permitted.
Stone size will correspond to the inch dimension indicated on Drawings. The D_{50} of the stone

size represent 50% of the stone passing the D_{50} dimension sieve screen. The D_{20} stone size, (20% passing) shall be one half the D_{50} dimension. The maximum size limit, D_{100}, shall be twice the D_{50} stone size dimension.

D_{20} = 20% passing ½ D_{50} dimension sieve
D_{50} = 50% passing D_{50} dimension sieve
D_{100} = 100% passing $2D_{50}$ dimension sieve

PART 3 - EXECUTION

3.1 Construction

A. Silt Fence:
1. Install silt fence prior to any earthwork including grubbing.
2. Place where shown on Drawings. Install parallel to contours where possible, prior to site clearing and grading activities.
3. Bury lower edge of fabric at least 8" below ground surface to prevent underflow, as noted in the Erosion Control Handbook.
4. Curve ends of fence uphill to prevent flow around ends.
5. Inspect frequently; repair or replace any damaged sections.
6. Remove fence only when adequate grass catch has been established and accepted by the Owner.

B. Mulch:
1. Place mulch immediately after each area has been properly prepared.
2. When seed for erosion control is sown prior to placing the mulch, place mulch on the seeded areas within 48 hours after seeding.
3. Apply mulch at 1.5 to 2.0 tons per acre.
4. Hay mulch should cover the ground enough to shade it, but the mulch should not be so thick that a person standing cannot see ground through the mulch.
5. Remove matted mulch.

F. Hay Bales:
1. Place as required to provide for temporary control of erosion, and in ditches at 100-foot minimum intervals.

G. Dust Control:
1. Apply sprinkled water to reduce the emission of airborne soil particulates from the Project site. Calcium chloride shall not be permitted for use.

K. Riprap:
1. Subgrade Preparation: Grade and compact, where possible, areas to receive protection to a uniform slope. Allow for depth of protection stone layer.
2. Filter Fabric Placement: Filter fabric may be used under the riprap in lieu of aggregates as shown on the Drawings. Filter fabric is to be placed in one continuous piece. Sew all seams as per manufacturer□s recommendation.
3. Riprap Placement: Place required riprap to full depth shown on Drawings measured perpendicular to the face of the slope to obtain a uniform appearance true to line and grade. Place larger stones at bottom of slope. Place stones in close contact, with interlocking of face stones and backing stones. Fill openings between stones with smaller rocks or coarse gravel.

3.2 Maintenance

A. Inspect erosion control practices immediately after each rainfall and at least daily during prolonged rainfall or snowmelt for damage. Provide maintenance and make appropriate repairs or replacement at no additional cost to the OWNER, until Project acceptance or as required to comply with maintenance requirements if longer.
B. Remove silt from silt fence when it has reached one foot above grade or prior to expected heavy runoff or siltation.
C. Repair matting if any staples become loosened or raised, or if any matting becomes loose, torn, or undermined, make satisfactory repairs immediately.

3.3 Removal of Temporary Erosion Control

A. Remove temporary materials and devices when permanent soil stabilization has been achieved.
B. Level and grade to the extent required to present a sightly appearance and to prevent any obstruction of the flow of water or any other interference with the operation of or access to the permanent works.
C. Remove unsuitable materials from site and dispose of in a lawful manner.

END OF SECTION

SECTION 02724

FOUNDATION DRAIN PIPE

PART 1 – GENERAL

1.1 Summary

A. Work Included: Provide and install non-pressure pipe and fittings of the size(s) and type(s) and in the location(s) shown on the Drawings and as specified herein.
B. Related Work Specified Elsewhere (When applicable): Excavation and Backfill, Dewatering, Pavement, Borrow and Bedding Material are specified in the appropriate Sections of this Division.

1.2 Quality Assurance

A. Manufacturers:
   1. Doran-Maine, Inc.
   2. Aroosta Cast, Inc.
   3. Johns-Manville
   4. Armco
   5. Northeast Concrete Products
   6. Or equivalent.

1.3 Submittals to the Engineer

A. Submit five (5) copies of shop drawings to the Engineer for approval at least thirty (30) days prior to incorporation into the work.
B. Submit manufacturer's "Certification of Conformance" that pipe and fittings meet or exceed the requirements of these Specifications.
C. Submit other documents as specified in the appropriate Sections of this Division.

1.4 Delivery, Storage and Handling

A. Provide all labor necessary to assist the Engineer to inspect pipe, fittings, gaskets and other materials.
B. Carefully inspect all materials at the time of delivery and just prior to installation.
C. Carefully inspect all pipe and fittings for:
   1. Defects and damage.
   2. Deviations beyond allowable tolerances for joint dimensions.
   3. Debris and foreign matter.
D. Examine area and structures to receive piping for:
   1. Defects such as weak structural components that adversely affect the execution and quality of work.
   2. Deviations beyond allowable tolerance for pipe clearances.
E. All materials and methods not meeting the requirements of the Contract Documents will be rejected.
F. Immediately remove all rejected materials from the Project site.
G. Start work only when conditions are correct to the satisfaction of the Engineer.

PART 2 - PRODUCTS

2.1 Non-Perforated Pipe and Fittings

A. Size 4" dia. and 6" dia. Inclusive.
   1. PVC Schedule 40.
   2. ASTM D-2665.
   3. Fittings and joints to be compatible with pipe.

2.2 Perforated Pipe and Fittings

A. Size 4" dia. and 6" dia. Inclusive:
   1. MDOT, Type "B" meeting requirements of Section 605.
   2. Corrugated Polyethylene Drainage Tubing for underdrain. ASSHTO M-252.
   3. Coiled pipe shall not be used.

2.3 Bedding Requirements

A. See Drawings for details.
B. Granular material for underdrain Type "B" shall be free of organic material and shall meet the following gradation requirements:

Sieve Designation	Percent By Weight Passing Square Mesh Sieves
1"	95 - 100
1/2"	75 - 100
No. 4	50 - 100
No. 20	15 - 80
No. 50	0 - 15
No. 200	0 - 5

PART 3 - EXECUTION

3.1 Inspection

A. Examine areas to receive piping for the following:
   1. Obstructions that adversely affect the installation and quality of the work.
   2. Deviations beyond allowable tolerances for clearances.
B. Examine pipe and fittings before installation to assure no defective materials are incorporated. No single piece of pipe shall be laid unless it is generally straight.
C. Remove and replace all defective materials at no additional cost to the Owner.
D. Start work only when conditions are satisfactory.

3.2 Installation

A. Install all pipe and fittings to the lines and grades shown on the Drawings and/or as approved by the Engineer.
B. Begin laying pipe at the downstream end.
C. During installation, close open ends of the pipe with temporary watertight plugs to prevent earth, water and other material from entering the pipe.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 Summary

A. This work shall consist of furnishing and constructing all cast-in-place concrete as shown on the Drawings and as required to complete the work. This work includes all steel reinforcement, form work, anchor bolts, sleeves, vapor barriers, and any other accessories necessary to complete the work.

1.2 References

A. All work shall comply with the applicable provisions of the following codes:
1. American Concrete Institute ACI-318-83 "Building Code Requirements for Reinforced Concrete".
2. American Concrete Institute ACI-301-89 “Specifications for Structural Concrete for Buildings".
3. Concrete-Reinforcing Steel Institute CRSI Handbook 1972.
4. ASTM C94 Standard Specification For Ready-Mixed Concrete.

1.3 Submittals

A. At least 30 days prior to the first placement, a concrete mix design shall be submitted by the Contractor to the Department for approval. No concrete shall be placed on a project until the concrete mix design is approved by the Department. The mix design submitted by the Contractor shall include the following information:

1. Description of individual coarse aggregate stockpiles, original source, bulk specific gravity, absorption and gradation. A combined coarse aggregate blended gradation shall be provided.

2. Description of fine aggregate, original source, bulk specific gravity, absorption, colorimetric, gradation and Fineness Modulus (F.M.).

3. Description and amount of cement.

4. Target water cement ratio.

5. Target water content by volume.

6. Target strength.

7. Target air content, slump and concrete temperature.

8. Target concrete unit weight.

9. Type and dosages of air entraining and chemical admixtures.

Approval by the Department will be contingent upon the ability of the mix design proportions to produce concrete strength requirement and other factors that affect durability.

B. The Contractor shall provide the Engineer with at least six (6) copies of shop drawings for all reinforcing steel and other accessories to be cast-in-place. Shop drawings shall be submitted at least 30 days in advance of concrete placement and shall be reviewed by the Engineer prior to placement.

1.4 Testing

A. Concrete acceptance testing will be performed by the Department. The Department will determine the acceptability of the concrete through a quality assurance program. Quality Assurance tests will include compressive strength, air content and permeability. Concrete sampling for quality assurance tests will be taken at the discharge point, with pumped concrete sampling taken at the discharge end of the pump line.

B. Compressive strength tests will be completed by the Department in accordance with AASHTO-T22 at ³ 28 days, except that no slump will be taken. The average of two concrete cylinders will constitute a test result and this average will be used to determine the compressive strength.

C. Testing for Entrained Air in concrete, at the rate of one test per sublot, shall be in accordance with AASHTO T152.

D. Concrete not meeting standards implied in these specifications or as indicated on the Drawings shall be removed and replaced by the Contractor at no cost to the Department.

1.5 Quality Assurance

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment. Measuring and batching of materials shall be performed at a Department approved batching plant.

PART 2 - PRODUCTS

2.1 Concrete

A. Cement
1. Cement shall be Portland Cement conforming to ASTM C-150 for Type I, II or III as specified. If not specified, Type II shall be used.

B. Aggregates: Concrete aggregates shall conform to ASTM Specification C-33. All aggregates shall be free from frozen materials and other impurities.
1. Fine aggregate shall be clean sand free from clay, loam, and other deleterious substances and shall meet the following gradation:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
3/8 inch	100
No. 4	95-100
No. 8	70- 95
No. 16	45- 80
No. 30	25- 55
No. 50	10- 30
No. 100	2- 10
No. 200	5 Maximum

2. Coarse aggregate shall be durable, clean, crushed stone or gravel-free from clay, loam and other deleterious substances and shall meet the following gradation:

Concrete	Sizes	2"	1-1/2"	1"	3/4"	1/2"
AA	3/4			100	90-100	45-80
A	1		100	95-100	70-95	25-60
B	1-1/2	100	95-100	60-85	35-70	15-45

C. Water
1. Water shall be clean and potable containing no deleterious impurities which may be harmful to concrete or accessories.

D. Admixtures
1. Synthetic Fibers: nylon fiber conforming to ASTM C-1116. Synthetic fibers shall be

installed in all concrete slabs, exposed exterior concrete and special structures unless otherwise indicated.

2. Water Reducing Admixture: "Pozzolith 200N" by BASF Admixtures, Inc., or "Pastocrete 161" by Sika Chemical Corporation. The admixture shall conform to ASTM C494, Type F or G, and not contain more chloride ions than are present in municipal drinking water. Products must be listed on the Maine DOT Qualified Products List.

3. Water Reducing, Retarding Admixture: "Eucon Retarder-75" by The Euclid Chemical Company, "Pozzolith 100XR" by BASF Admixtures, Inc. or "Plastiment" by Sika Chemical Corporation. The admixture shall conform to ASTM C494, Type D and not contain more chloride ions than are present in municipal drinking water. Products must be listed on the Maine DOT Qualified Products List.

4. High Range Water Reducing Admixture (Superplasticizer): "Eucon 37" by The Euclid Chemical Company or "Sikament" by Sika Chemical Corporation. The admixture shall conform to ASTM C494, Type F or G, and not contain more chloride ions than are present in municipal drinking water. Products must be listed on the Maine DOT Qualified Products List.

5. Non-Corrosive, Non-Chloride Accelerator: "Accelguard 80" by The Euclid Chemical Company, or approved equal. The admixture shall conform to ASTM C494, Type C or E, and not contain more chloride ions than are present in municipal drinking water. The admixture manufacturer must have long-term, non-corrosive test data from an independent testing laboratory (of at least a year's duration) using an acceptable accelerated corrosion test method such as that using electrical potential measures.

6. Air Entraining Admixture: Conform to ASTM C260. Products must be listed on the Maine DOT Qualified Products List.

7. Prohibited Admixture: Calcium chloride, thiocyanates or admixture containing more than 0.05% chloride ions are **not** permitted.

8. Certification: Written conformance to the above mentioned requirements and the chloride ion content of the admixture will be required from the admixture manufacturer prior to mix design review by the Engineer.

2.2 Steel

A. Reinforcing steel shall conform to ASTM A-615 and be of an approved manufacturer. All bars shall be new, grade 60 and shall be at the sizes shown on the Drawings.

B. Welded wire mesh or fabric (WWF) shall conform to ASTM A-185 and shall be at the sizes and dimensions as shown on the Drawings, and fabricated in accordance with ACI-315 (Latest).

C. Steel accessories shall be at the sizes and types as shown on the Drawings unless otherwise specified and shall include all spacers, chairs, ties and other devices for properly spacing, supporting and fastening reinforcement in place. Anchor bolts shall be Grade 60 or better and of the sizes and types as shown on the Drawings.

D. Wall reinforcement in 8-inch walls shall be #4 bars at 18" intervals, both horizontally and vertically unless otherwise indicated on drawings.

2.3 Accessories

A. Waterstops shall be neoprene, PVC, or other approved material of the size and style as shown on the drawings.

B. Preformed joint fillers shall be 1/4-inch fiber insulation board such as "Celotex" or approved equivalent.

C. Non-shrink Grout shall be portland cement based, non-metallic, as manufactured by U. S. Grout Corporation - "Five Star Grout"; Dayton Superior Corporation - "Sure-Grip Utility Grout"; or approved equivalent. Non-shrink grout shall conform to ASTM C-827.

D. Asphalt dampproofing shall be a heavy-bodied bituminous compound as manufactured by the Euclid Chemical Company or approved equivalent.

E. Concrete Sealers (Exterior concrete): Water repellent concrete sealer shall be single component, colorless liquid, "Sikagard 70" by the Sika Chemical Corporation, "Euco-Guard" by the Euclid Chemical Company, or approved equivalents.

2.4 Joint Sealants

A. Epoxy jointing compounds shall be two component, 100% solids, moisture insensitive, with a minimum shore A hardness of 75; "Euco 700" by the Euclid Chemical Company; "Sikadur 51 SL" by the Sika Chemical Corporation, or approved equivalents.

B. Polyurethane-based sealants shall be one component, premium grade, non-sag elastomeric sealant; "Eucolastic l" by the Euclid Chemical Company; "Sikaflex - 1a" by the Sika Chemical Company, or approved equivalents.

PART 3 - EXECUTION

3.1 Concrete Proportioning

A. Concrete shall be Ready-Mix conforming to ACI-301-72 Para. 7.1. B. Strength, cement and water requirements:

Use	Min.Strength 28-day-psi	Max.Size Coarse Agg	% Air (1%)	Min-Max Slump	Min Cem.Fac.	Max W/C	Fiber Reinf
Footings, Walls,	4,000	1"	6	2-4*	611 #/CY	.45	-----**
Misc. Fill Conc.	3,000	1"	6	2-5*	564 #/CY	.50	------

*Min-Max slump is before the addition of water reducing admixtures.
**All concrete shall contain a high range, water-reducing admixture meeting the requirements of 2.1.D. Air content shall be 5-7% and maximum slump shall be 7" after admixtures.

3.2 Form Work

A. All construction form work shall be of sufficient strength and construction to safely withstand the loads imposed, conforming to ACI 347. Forms shall be suitably tied and/or bolted together to maintain the specified dimensions. 3/4-inch chamfer strips shall be placed at all exposed corners unless otherwise specified.

B. Materials - Forms shall be smooth, treated plywood or steel. Forms shall be coated with form oil, water or other approved substances to facilitate removal. Only non-staining substances shall be used. Form oil shall not be used on corners which will be waterproofed. Where concrete structures will contact potable water, provide only new, clean form panels. Form release agents shall be approved for use with potable water structures.

C. Build into the forms all collars, sleeves or thimbles required for piping and wiring, and any anchors or inserts for supporting piping, fixtures or attachments; nailing blocks and strips, and all other items required in the Specifications or shown on the Drawings. Inserts supporting a mechanical or electrical fixture shall be furnished and located by the trade who will use them.

D. Form Removal - Forms shall be left in place at least 5 days unless otherwise allowed by the Engineer. Forms for elevated slabs and beams shall be left in place and supported until concrete attains at least 80% of specified strength. Loads shall not be superimposed until allowed by the Engineer. Care shall be taken in removing forms so as not to damage the concrete. No

concentrated loads such as structural steel beams and trusses shall be placed upon finished concrete substructures 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 . No materials shall be stored on the slab during the 7 day curing period.

E. Form Ties - Unless otherwise specified, form ties shall be snap-off type. For watertight construction as shown on the Drawings or as approved by the Engineer, form ties shall be snap-off type with 2-inch or 1-inch cones.

3.3 Placing Reinforcing Steel

A. All steel shall be supplied and placed in accordance with ACI-318 and shall conform to the sizes, lengths and shapes as shown on the approved shop drawings.
B. The bending of reinforcing to conform to the dimensions shown on the plans shall be accurately done. Heating of bar to facilitate bending is not allowed.
C. Place reinforcing of all slabs in correct position as shown and hold in position with pre-cast blocks, polyethylene chairs, or other approved means.
D. Minimum clearance between steel and form shall be 2 inches and steel and ground shall be three inches except as otherwise specified.
E. Reinforcing steel shall be inspected and approved by the Engineer prior to placing concrete. At least 24 hours notice shall be given the Engineer to inspect all steel.
F. Furnish and place all embedded items as shown on the Drawings and as otherwise required such as anchor bolts, frames, sleeves, etc.
G. Provide adequate keys and dowels at all wall intersections and construction joints. Lap all reinforcements 36 bar diameters at splices, and 12 inches minimum at corners unless otherwise indicated on Drawings.
H. Provide dowels in wall footings equivalent in size and number to vertical steel extending 24 bar diameters into footing and into wall unless otherwise indicated on Drawings or by the Engineer.
I. Lower end of dowels shall have a 90-degree bend with a 4-inch minimum horizontal dimension.
J. All 4-inch thick concrete slabs on fill shall be reinforced with 6" x 6" x W2.9 x W2.9 WWF unless otherwise indicated on Drawings or by the Engineer.

3.4 Joints

A. Control joints shall be located where shown on the Drawings or at no more than 15-foot intervals. Saw cut at joints shall be made within 48 hours of concrete pour.
B. Construction joints shall be used only where approved by the Engineer.
C. Expansion joints shall be located where shown on the Drawings. Preformed joint fillers shall be placed in all expansion joints to within 1/4 inch of surface.
D. Epoxy joint filler shall be installed as approved by the manufacturer in all horizontal, vertical and overhead control and construction joints not in contact with water or earth backfill, unless otherwise shown on the Drawings.
E. Polyurethane-based elastomeric sealants shall be installed over the preformed joint filler in all expansion joints.

3.5 Mixing and Placing Concrete

A. Transit Mix - Concrete mixed in transit mixers shall be placed within 90 minutes of addition of water at the plant. Delivery tickets shall state the time of water addition or departure from the plant if this is within 10 minutes. If the concrete cannot be placed within the specified time limitations, the Engineer may require that all cement be added at the job site. No additional water shall be added without consulting the Engineer. Any additional water added to the concrete on the site is the Contractor's sole responsibility and risk. The Contractor shall provide a Certificate of Compliance for each truckload of concrete to the Department at the time of the load placement. The Certificate of Compliance shall be a form acceptable to the Department and shall include:

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. Coarse Concrete Aggregate
3. Fine Concrete Aggregate
4. Water (including free moisture in aggregates and water added at the project)
5. Admixtures Brand and Quantity (fluid ounces/cubic yard)

Air-Entraining Admixture
Water Reducing Admixture
Other Admixtures
Placement Location

B. Placement - Concrete shall be placed with a minimum amount of handling to prevent segregation. Chutes and troughs shall be provided where required. Vertical drops over 8 feet will not be permitted without the use of a tremie or similar approved equipment. All placement shall be subject to the approval of the Engineer. Concrete shall not be placed until forms and reinforcing steel have been checked and approved by the Department's representative. The forms shall be clean of debris. The method and sequencing of placing concrete shall be approved before placement of concrete. All concrete shall be placed before it has taken its initial set. 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. 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.

C. Vibration - Power vibrators shall be provided to thoroughly consolidate and compact the concrete. Vibrators shall not be used to push or move concrete laterally in forms. Excessive vibration will not be permitted. A minimum of two (2) power vibrators shall be on the site when pouring concrete.

3.6 Protection of Concrete

A. Fresh concrete shall be protected from rain, cold and excessive temperature. Concrete shall be placed at temperatures between 40ºF and 90ºF. When outside air temperatures are below 40□F, materials shall be heated and maintained above 50ºF for at least 5 days after placement.

B. Curing - Exposed concrete shall be kept continuously moist for at least 7 days after placement. In hot weather, slabs and other exposed concrete shall be covered with burlap, plastic sheeting or other approved materials and be sprinkled as required to prevent rapid drying. Curing compounds may be approved by the Engineer.

C. All slabs shall be water cured only and kept continuously wet for the entire curing period of 7 days by covering with one of the following systems:

1). 2 layers of wet burlap,

2.) 2 layers of wet cotton mats,

3.) 1 layer of wet burlap and either a polyethylene sheet or a polyethylene coated burlap blanket,

4.) 1 layer of wet cotton mats and either a polyethylene sheet or a polyethylene coated burlap blanket.

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 slabs 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. Polyethylene sheets shall not be placed directly on the concrete, but may be placed over the fabric cover to prevent drying.

3.7 Finishing

A. Exposed Concrete (Except Slabs)
1. After removal of forms, remove all form ties to at least 1-inch below surface. Removal all loose and honeycombed concrete, fins and other surface irregularities.
2. Concrete patching - After cleaning out all holes, honeycombs and other areas to be patched, moisten surface and apply non-shrink grout or a mixture of one part Portland Cement and 3 parts sand, taking care to match the color or concrete.
3. All concrete, which will be exposed to view, shall be hand rubbed using carborundum bricks, burlap or other approved method. Finished surfaces should present a smooth, even appearance of uniform color.

B. Unexposed Concrete
1. All unexposed concrete shall have tie holes, honeycombs and other holes filled with patching mortar as above. Fins and other irregularities shall be removed so as to present a uniform surface.
2. Unexposed concrete will not require a rubbed finish after patching.
3. Concrete walls that are in contact with earth backfill shall receive two coats of bituminous asphalt dampproofing unless otherwise shown on the Drawings.

C. Slabs
1. Interior Floor Slabs shall be float finished and steel trowelled with a trowelling machine once the concrete has set sufficiently. The finish shall be smooth, uniform and hard. Surface tolerance shall be not more than 1/4-inch under a 10-foot straight edge. Slabs in areas where floor drains occur shall be pitched to drains with a uniform gradual pitch in all directions. Floor slabs shall be covered and sealed with polyethylene sheeting and burlap or other approved material and cured for not less than 7 days. Treat floor slabs with approved surface hardener/sealer according to manufacturer's directions. Treat floor slabs in garages and other commercial or industrial areas with approved surface hardener/sealer according to manufacturer's directions.
2. Exterior Floor Slabs/Pavements shall be float finished and receive a moderate broom finish perpendicular to the direction of traffic. Floor slabs shall be covered and sealed with polyethylene sheeting and burlap or other approved material and cured for not less than 7 days. Apply approved sealer according to manufacturer's directions.

D. Penetrations
1. All wall or floor penetrations by pipes, conduit and other inserts shall be sealed with non-shrink grout around entire penetration to provide a watertight finish.

END OF SECTION

SECTION 06100

ROUGH CARPENTRY

PART 1 - GENERAL

1.1 Summary

A. This work consists of all labor, materials and equipment necessary to complete the work as shown on the Drawings and as specified herein.

1.2 References

A. International Building Code, Latest Edition.

1.3 Workmanship

A. Only experienced personnel shall be engaged in this work.

1.4 Delivery, Storage and Handling

A. Deliver the materials to the job site and store in a safe area, out of the way of traffic, shored up off the ground surface and covered to protect from the weather.

PART 2 - PRODUCTS

2.1 Dimension Lumber

A. Dimension lumber shall be Eastern Spruce or other wood approved by the Engineer and shall comply with grading requirements of the Northeastern Lumber Manufacturers Association for Common, Number 2 or better, and shall bear the grade stamp.
B. When specified on the Plans or in Part 4, stress grade structural lumber shall be provided. Stress grade lumber shall bear appropriate stamp for the specified grade and species.
C. Wood for pressure treating and special installation shall be southern yellow pine meeting the requirements of the Southern Pine Inspection Bureau (SPIB) for Number 2 or better.
D. All lumber shall not exceed 19% moisture content.

2.2 Plywood

A. All plywood shall be 4/5-ply minimum and shall comply with U.S. Product Standard PS-1 for softwood plywood and shall bear the specified grade and stamp of the American Plywood Association.
B. Unless otherwise shown on the Drawings, plywood shall meet the following requirements:

Use	Thickness	Grade	Glue	Span Rating
Wall Sheathing	5/8"	CDX	Exterior	32/16
Interior Sheathing	¾"	AC, AD	Interior	------
Electrical Backboard	3/4"	BC	Exterior	------

C. Contractor may substitute coated oriented strand board (OSB) sheathing in lieu of exterior wall sheathing, equivalent to “Advantek” by Huber Industries.

2.3 Accessories

A. Nails shall be new, bright, common nails of appropriate lengths and sizes to adequately join the wood. Use galvanized where exposed to weather or where shown on the Drawings.

B. Joist hangers, framing anchors shall be 18-gauge, galvanized steel such as manufactured by Kant Sag, Simpson, or approved equivalent.
C. Special nails shall be used where shown on the Drawings or as recommended by manufacturer.
D. Glue shall be an all purpose subfloor and construction adhesive, suitable for interior and exterior use, as manufactured by DAP, GE, Ohio Sealants, or approved equivalents.

2.4 Pressure Treated Lumber (P.T.)

A. Lumber or plywood in contact with ground or fresh water shall be treated in accordance with AWPA Standards C2 and LP-22 and shall be rated 0.60 retention.
B. Lumber in direct contact with concrete, masonry, or steel, not in contact with soil or fresh water shall be treated in accordance with AWPA Standards C2 and LP-2 and shall be rated 0.40 retention.
C. Pressure treatment shall be water borne chromate copper arsenate (CCA).
D. Wood shall be dried after treatment.

PART 3 - EXECUTION

3.1 Preparation

A. Carefully select individual lumber pieces so that knots and obvious defects will not interfere with placing bolts or proper nailing.
B. Cut out and discard defects which render a piece unable to serve its intended function.
C. Lumber will be rejected by the Engineer if it is excessively warped, twisted, bowed, mildewed or molded, as well as if it is improperly installed.

3.2 Erection

A. All framing work shall produce joints which are tight, true, and well nailed, with members assembled in accordance with the Drawings and with pertinent codes and regulations.
B. All framing and fastening shall equal or exceed HUD Minimum Property Standards, Manual of Accepted Practices and the requirements of the BOCA National Building Code.
C. Do not shim any framing member.
D. Install horizontal and sloped members with crown up.
E. Do not notch, cut or bore members for pipes, ducts, conduits, or for any other reason, except as shown on the Drawings and as approved by the Engineer.
F. Bearing surfaces on which structural members rest shall provide a full, even support.
G. Joists, rafters and similar members shall be fastened with at least two (2) galvanized steel hangers or anchors and nailed completely.
H. Install solid block bridging at midpoint of joists or as shown on the Drawings.
I. Provide all shims, blocking and bracing as shown on the Drawings and as approved by the Engineer to complete the work.
J. In addition to normal framing operations, install wood blocking or backing required to support the work of other trades.

3.3 Plywood Sheathing

A. Unless otherwise specified or approved by the Engineer, install plywood with the face grain perpendicular to framing and center joints over supports. Leave a 1/16-inch gap where adjacent plywood panels meet.
B. Stagger plywood joints so that all joints do not lie on the same support. Nail as shown in the recommended fastening schedule in this Section.

3.4 Nailing

A. Use common wire nails except as otherwise indicated. Make tight connections between members. Countersink nail heads on exposed carpentry work and fill holes.
B. Install fasteners without splitting wood; pre-drill as required.
C. All nailing shall comply with the BOCA National Building Code, Recommended Fastening Schedule (included in this Section), unless special requirements are shown on the Drawings.

3.5 Concrete Bearing

A. All wood which bears against concrete, earth, steel or masonry shall be pressure treated as specified on the Drawings or as approved by the Engineer.

END OF SECTION

SECTION 06190

WOOD TRUSSES

PART 1 - GENERAL

1.1 Summary

A. Work Included: Provide wood trusses where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
B. Related Work:
   1. Section 06100 - Rough Carpentry.

1.2 Quality Assurance

A. Truss fabrication and installation shall comply with the International Building Code, latest edition and the requirements and recommendations of the following Truss Plate Institute (TPI) publications:
   1. "Design Specification for Metal Plate Connected Wood Trusses".
   2. "Commentary and Recommendations for Handling and Erecting Wood Trusses".
   3. "Commentary and Recommendations for Bracing Wood Trusses".
   4. "Quality Control Manual".
B. Trusses and metal truss connector plates shall be manufactured by a firm that practices a quality control program comparable to the TPI "Quality Control Manual".
C. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 Submittals

A. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
   1. Materials list of items proposed to be provided under this Section.
   2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
   3. Shop Drawings showing species, sizes, and stress grades of lumber proposed to be used; pitch, span, camber configuration, and spacing of trusses; connector type, thickness, size, location, and design value; and bearing details.
   4. Submit six (6) copies of shop drawings showing types and sizes of metal tie down anchors and any other accessories.
   5. These submittals shall be provided on Shop Drawings signed and stamped by a structural engineer licensed to practice in the State of Maine.

1.4 Delivery Storage and Handling

A. Handle and store trusses with care and in accordance with manufacturer's instructions and TPI recommendations, to avoid damage from bending, over-turning, or other cause for which truss is not designed to withstand.
B. Time delivery and erection of trusses to avoid extended on-site storage.

PART 2 - PRODUCTS

2.1 Wood Trusses

A. Design wood trusses for the loads shown on the Drawings. Modify the trusses at chimneys and other openings as required.

B. Fabrication:

1. Cut truss members to accurate lengths, angles and sizes to produce close fitting joints with proper wood-to-wood bearing in assembled units.
2. Connect truss members by means of metal connector plates accurately located and securely fastened to wood members.

C. Lumber:
1. All lumber used in the fabrication of wood trusses shall not exceed 19% moisture content.

2.2 Permanent Bracing

A. Provide 2" x 4" diagonal bracing of vertical truss members and continuous lateral bracing of intermediate truss members as shown on the Drawings and as approved by the Engineer.

2.3 Other Materials

A. Provide other materials, not specifically described but required for a complete and proper installation, subject to the approval of the Engineer.

2.4 Metal Tie Down Anchors

A. Provide metal tie down anchors that are nailed to the truss bottom chord, top wall plate and wall stud.
B. Acceptable Products:
1. Simpson Strong Tie,
2. Kant-Sag RT-9 or
3. Approved equivalents.

PART 3 - EXECUTION

3.1 Surface Conditions

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.2 Installation

A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
B. Install the work of this Section in strict accordance with the original design, the approved Shop Drawings, and recommendations of the manufacturer and the Truss Plate Institute, as approved by the Engineer, anchoring all components firmly into position.
1. Hoist the trusses into position with proper bracing secured at designated lifting points.
2. Exercise care to keep bending of trusses to a minimum.
3. Install temporary horizontal and cross bracing to hold trusses plumb and in safe condition until permanent bracing is installed.
4. Install permanent bracing and related components prior to application of loads to trusses.
5. Anchor trusses securely at all bearing points and install metal tie down anchors as shown on the Drawings.
6. Restrict construction loads to prevent overstressing of truss members.
7. Do not cut or remove truss members in the field without approval of Engineer and truss manufacturer.

END OF SECTION

SECTION 06192

STRUCTURAL GLUED LAMINATED TIMBER

PART 1 - GENERAL

1.1 Summary

A. Work Included: Provide wood arches where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
B. Related Work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. Section 06100 - Rough Carpentry.

1.2 Quality Assurance

A. Laminated wood arches fabrication and installation shall comply with the requirements and recommendations of the American Institute of Timber Construction.
B. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 Submittals

A. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
   1. Materials list of items proposed to be provided under this Section.
   2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
   3. Shop Drawings showing species, sizes, and stress grades of lumber proposed to be used; pitch, span, camber configuration, and spacing; connector type, thickness, size, location, and design value; and bearing details.
   4. Submit six (6) copies of shop drawings showing types and sizes of metal tie down anchors and any other accessories.
   5. These submittals shall be provided on Shop Drawings signed and stamped by an engineer licensed to practice in the State of Maine.

1.4 Delivery Storage and Handling

A. Handle and store arches with care and in accordance with manufacturer's instructions and AITC recommendations.
B. Time delivery and erection of structural glue laminated timbers to avoid extended on-site storage.

PART 2 - PRODUCTS

2.1 Structural Glue Laminated Wood Arches
A. Design Criteria:
   1. International Building Code 2006, 70 psf ground snow load, 90mph wind load, exposure factor 1.0, thermal factor adjusted for roof slope on a cold metal roof, importance factor 0.8.
   2. Combination Symbol 24F-V5.
   3. Industrial grade.
B. Fabrication:
   1. Cut members to accurate lengths, angles and sizes to produce close fitting joints with proper wood-to-wood bearing in assembled units.

2. Connect members by means of metal connector plates accurately located and securely fastened to foundation.

2.2 Sealer

A. Provide manufacturer's standard, transparent clear sealer to seal the entire member, including ends.

2.3 Permanent Bracing

A. Provide 2" x 8" diagonal bracing of arch members and continuous lateral bracing as shown on the Drawings and as approved by the Engineer.

2.4 Other Materials

A. Provide other materials, not specifically described but required for a complete and proper installation, subject to the approval of the Engineer.

2.5 Metal Tie Down Anchors

A. Provide metal tie down anchors that are bolted to the arch bottom and foundation wall as shown on the drawings. All connectors shall be stainless steel.

PART 3 - EXECUTION

3.1 Surface Conditions

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.2 Installation

A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

B. Install the work of this Section in strict accordance with the original design, the approved Shop Drawings, and recommendations of the manufacturer as approved by the Engineer, anchoring all components firmly into position.
   1. Hoist the arches into position with proper bracing secured at designated lifting points.
   2. Exercise care to keep bending of arches to a minimum.
   3. Install temporary horizontal and cross bracing to hold arches plumb and in safe condition until permanent bracing is installed.
   4. Install permanent bracing and related components prior to application of loads.
   5. Anchor securely at all bearing points and install metal tie down anchors as shown on the Drawings.
   6. Restrict construction loads to prevent overstressing of members.
   7. Do not cut members except as approved by manufacturer.

END OF SECTION

SECTION 07467

METAL SIDING

PART 1 - GENERAL

1.1 Summary

A. Work Included: Provide preformed metal siding and roofing where shown on the Drawings, as specified herein and as needed for a complete and proper installation.
B. Related Work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.

1.2 Quality Assurance

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 Submittals

A. Comply with pertinent provisions of Section 01340.
B. Product Data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
   1. Materials list of items proposed to be provided under this Section;
   2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
   3. Shop drawings in sufficient detail to show fabrication, installation, anchorage and interface of the work of this Section with the work of adjacent trades;
   4. Samples:
      a. Two (2) full panel width by 6" length of finished exterior siding, interior liner and perimeter trim pieces.
      b. One of each type fastener employed;
   5. Manufacturer's recommended installation procedures which, when approved by the Engineer, will become the basis for accepting or rejecting actual installation procedures used on the work.

PART 2 - PRODUCTS

2.1 Preformed Metal Siding and Roofing

A. Metal siding shall be 26 gauge corrugated steel with 7/8” high flutes, galvalume substrate with a Kynar 500 finish.
B. Metal siding shall be equivalent to McElroy Metal Multi-Cor.
C. Panels shall be maximum length possible to minimize end laps.
D. Siding color shall be selected by the Owner.

2.3 Accessory Items

A. Provide subgirts, perimeter trim, closures and other required components as needed to comprise the complete preformed metal siding system, using the materials and gauges recommended by the manufacturer and approved by the Engineer, and providing finish on exposed surfaces precisely matching the finish on the other exposed surfaces.
B. Provide fasteners, washers and sealants as recommended by the manufacturer.

PART 3 - EXECUTION

3.1 Surface Conditions

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions

detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.2 Installation

A. Install the work of this Section in strict accordance with the manufacturer's recommended installation procedures as approved by the Engineer.
B. Set siding plumb, level and true to line, without warp or rack, to a tolerance of one in 600.
C. Touch up mars, scratches and cut edges to match original finish.
D. Provide additional panels in the amount of 10% of the total job quantity for the Owner’s future use.

END OF SECTION

SECTION 07611

ARCHITECTURAL METAL ROOFING

PART 1 - GENERAL

1.1 Summary

A. Work Included: Install architectural standing seam metal roofing complete with concealed fasteners and accessories for a watertight system.
B. Related Sections: section 06100 Rough Carpentry and 06190 Wood Trusses.

1.2 Quality Assurance

A. Contractor shall be approved in writing by the roofing manufacturer and shall substantiate a minimum of three (3) years experience installing standing seam roofing.

1.3 Submittals

A. Submit six (6) copies of shop drawings to Engineer for review at least thirty (30) days prior to incorporation into the work. Shop drawings shall be approved and assigned a number by the manufacturer.
B. Shop drawings shall include: Outline of roof and roof size, location and types of penetrations, perimeter details, penetration details, and all manufacturers data on the proposed materials including panels, anchor clips and fasteners.
C. Submit written approval of contractor by manufacturer.
D. Submit sample warranty and maintenance instructions.

1.4 Warranty

A. Provide manufacturer's written twenty (20) year warranty for weather tightness against leaks in roof panels caused by ordinary wear and tear under normal weather conditions.
B. Roof finish coating shall be warranted against rust, peeling, chipping, cracking, and blistering for a period of twenty (20) years.
3. Contractor shall provide written two-year warranty, guaranteeing the roof system to be watertight and free of defects.
4. Contractor shall provide detailed instructions for preventative maintenance and noting a list of harmful substances that may damage roofing.

PART 2 - PRODUCTS

2.1 Roof Panels

A. Roof panels shall be 24 gauge-galvanized steel and factory coated with a Kynar 500 finish.
B. Panels shall be interlocking seam design, 16" wide with a 1 3/4" deep seam fold. Panels shall have integral male and female interlocking ribs with a factory applied non-hardening sealant.
C. Panels shall be maximum possible lengths to minimize end laps.
D. Roof panel color shall be selected by Owner from manufacturer’s standard colors.

2.2 Fasteners

1. Panels shall be fastened to the substrate with a concealed clip system that accommodates thermal movement.
B. Fasteners shall be concealed except as required at rake, eave, ridge, and panel laps.
C. Exposed fasteners shall be fitted with EPDM Weather seal washers and shall be prefinished to match roofing.

2.3 Flashing

B. Flash all other roof penetrations.
C. Flashing shall be as recommended by the roofing manufacturer and as approved by the Engineer. Flashing shall be minimum .040 aluminum or 24 gauge galvanized steel.
D. Rubber boot pipe flashing shall be used around vent pipes.

2.4 Sealants

A. Sealants between roof panels shall be as recommended by the manufacturer.
B. Provide all required sealants at trim, roof penetration, etc.
C. Sealants shall be non-drying elastomer based material.

2.5 Fascia, Trim and Accessories

A. Fascia and metal trim shall be prefinished .040 aluminum or 24 gauge galvanized steel, aluminized steel. Color shall be white.
2. Ridge cap shall be a continuous venting metal ridge cover, as provided by the roofing manufacturer.

2.6 Acceptable Manufacturers

A. McElroy - Medallion - Lok
B. MBCI - BattenLok
C. Steelox - Lockrib
3. Approved Equivalent

2.7 Provisions for Expansion/Contraction

A. End wall trim and roof transition flashings shall allow the roof panel to move relative to walls as the roof expands and contracts with temperature changes.
B. Movement of roof panels relative to other panels shall be accommodated by the use of clips that allow movement of up to 1" in either direction.
C. Ridge assembly shall be designed to allow roof panels to move lengthwise with expansion/contraction as the roof panel temperature changes. Parts shall be factory prepunched for correct field assembly. Panel closures and interior reinforcing straps shall be installed to seal the panel ends at the ridge. The attachment fasteners shall not be exposed on the weather side. A lock seam plug shall be used to seal the lock seam portion of the panel. A hi-tensile steel ridge cover shall span from panel closure to panel closure and flex as the roof system expands and contracts.

PART 3 - EXECUTION

3.1 Inspection

A. Contractor shall inspect the substrate prior to installing metal roofing to insure that the surface is sound and uniform. Correct any irregularities prior to proceeding with the work.

3.2 Installation

A. Fasten metal panels to structural substrate with moveable clips that are seamed into the standing seam side lap.
B. Fasten clips to structural substrate in accordance with manufacturer's recommendations.
C. Panel to panel connections shall be made with a positive, standing lock seam, continuously locked or crimped together by mechanical means during installation.
D. All side lap sealant shall be factory applied.
E. Install accessories such as penetration flashings and eave closures in accordance with manufacturer's recommendations, as approved by the Engineer.

3.3 Final Inspection

A. A final inspection of the roofing system shall be made by the roofing manufacturer's representative as soon as construction is complete. Coordinate final manufacturer's inspection with the Department. Provide written certification that the metal roof system has been installed in accordance with the manufacturer's recommendations.

END OF SECTION

SECTION 07920

SEALANTS AND CAULKING

PART 1 - GENERAL

1.1 Summary

A. Provide all labor, materials and equipment to complete sealing and caulking as shown on the drawings and as specified herein.

1.2 Scope of Work

A. Sealing and caulking shall be performed on all exterior joints including but not limited to:
   1. Around door, frames and windows.
   2. Joints around wall, ceiling and penetrations such as electrical boxes, pipes, etc.
   3. Joints between dissimilar building materials such as brick and wood, wood and metal, etc., where water might enter.

B. Interior caulking of all wall, floor, and ceiling penetrations.

C. Sealing of concrete joints is covered in Section 03300.

1.3 References

A. All sealants and caulkings shall comply with ASTM C920, Standard Specification for elastomeric joint sealants.

PART 2 - PRODUCTS

2.1 Exterior Caulking

A. Exterior caulking between prefinished surfaces shall be a one component silicone joint sealant; "Spectrum 1" by Tremco Sealant Systems, Dow Corning "795 Silicone Building Sealant", or approved equivalent.

B. Exterior caulking for use on paintable surfaces shall be an acrylic latex joint sealant; "Tremco Acrylic Latex Caulk"; Bostik "Chem-Caulk 600", or approved equivalents.

2.2 Interior Caulking

A. Interior caulking for bedding electrical boxes, outlets, pipes or other wall penetrations and around interior doors, frames and windows shall be a non-hardening sealant; "Tremco Acoustical Sealant"; Bostik "Chem-Caulk 600", or approved equivalents.

B. Interior caulking for penetrations through fire walls or smoke barriers such as conduits, pipes and ducts shall be a one component fire resistant caulk or putty; 3M Fire Barrier Caulk "CP25" or Putty "303", or approved equivalents.

2.3 Joint Filler

A. Joint filler for backing caulking shall be non-absorbent precompressed foam sealant; "Will-Seal 150", by Will-Seal Construction Foams; "York-Seal 100" by York Manufacturing, Inc., or approved equivalents.

PART 3 - EXECUTION

3.1 Preparation

A. All joints and spaces to be caulked shall be dry, clean and free from dust and loose materials.

B. If necessary mask or otherwise protect adjacent surfaces.

3.2 Installation

A. All sealants and caulking shall be installed according to the manufacturer's recommendations.
B. Caulking shall be applied with suitable equipment such as with a caulking gun.
C. Use foam backing for joints deeper than 1/2-inch. Pack into joint allowing at least 1/4-inch for caulking.
D. Caulking shall be applied so that surfaces are slightly concave, tight and smooth. Joints shall be air and water tight.
E. Caulk or putty around fire and smoke wall penetrations shall be applied so as to provide a complete fire barrier sealing system.
F. Remove excess caulking and clean adjacent surfaces with approved cleaners.

END OF SECTION

SECTION 08250

DOORS, FRAMES AND HARDWARE

PART 1 - GENERAL

1.1 Summary

A. This work shall include all labor, materials and equipment necessary to complete the work as shown on the drawings and as specified herein.

1.2 Submittals

A. Contractor shall submit six (6) copies of shop drawings to the Engineer 30 days prior to installation. Only doors for which there are reviewed shop drawings shall be incorporated into the work.

1.3 Quality Assurance

A. Only experienced skilled workmen shall be engaged in this work.

1.4 Delivery Storage and Handling

A. Deliver doors and all necessary equipment in manufacturer's unopened containers.
B. Store materials in a protected area to prevent damage.
C. Protect doors and equipment during and after installation from splashing or the accumulation of paint, concrete, mortar, or other foreign material.

PART 2 - PRODUCTS

2.1 Acceptable Manufacturers

A. Therma-Tru Smooth Star flush panel fiberglass door
B. Sargent Lock Co. 10 line Series Bored Locks
C. Approved equivalents.

2.2 Fiberglass Doors and Frames

A. Fiberglass doors shall be insulated core doors, 1-3/4" thick, of the sizes and type as shown on the drawings and as specified herein.
B. Frames shall be pre-assembled units made of Grade A pine.
C. Doorstops, latches, doorknobs, hinges, fasteners, etc., for all doors installed shall be provided by the Contractor.

2.3 Door Hardware

A. Door hardware shall be equivalent to Sargent.
B. All hardware shall be lever-style handles with a dull chrome finish.
C. Door closers shall be full rack and pinion type contained in a permanent mold aluminum body and equipped with a single valve installed on all doors.
D. Hinges shall be full mortise type, 4" x 4", concealed ball bearing, stainless steel, three (3) per door, equivalent to Hager Tri Con Hinges #BB800.
E. Door stops for interior doors shall be as manufactured by H.B. Ives, wall mounted #65 door stop, aluminum finish.
F. See Schedule in Part 4 of this Section for hardware schedule.

2.4 Weather-stripping

A. Acceptable Manufacturers:
1. National Guard Products, Inc.
2. Reese
3. Approved equivalents.

B. Head and jamb weather-stripping shall be nylon brush gasket, National Guard Products #C607, 1/2" x 1/4" or approved equivalent.

C. Door bottom seal shall be equivalent to National Guard Products aluminum and vinyl seal, and surface mount nylon brush gasket #D608.

PART 3 - EXECUTION

3.1 Doors and Frames

A. Install units in compliance with the manufacturer's specifications and as approved by the Engineer.
B. Frames must be rigid and present a neat appearance.
C. Frames must be installed with not less than three wall anchors per jamb and an anchor to the floor at each jamb.
D. The partition shall enter the frame so that the two work as a unit.
E. Install all units plumb, level, straight and snugly fitted.
F. Take care not to damage door surface. Defects in surface finish such as hammer marks, scratches, and chips shall be repaired to the satisfaction of the Engineer and Owner.

3.2 Hardware

A. Install hardware on all doors as specified in Door Schedule in Part 4.
B. Install doorstops for all doors at heights recommended by the manufacturer.
C. Provide necessary shims and blocks to properly install units.

3.3 Finish

A. Paint all doors as shown in Finish Schedule of the Specifications, Section 09000.
B. All colors and products are to be selected and approved by the Engineer and Owner.

3.4 Cleanup and Protection

A. Clean all doors completely. Wash all windows with approved glass cleaner.
B. Protect all door units, replacing any breakage or defective parts until accepted by Owner.

PART 4 - SUPPLEMENTAL SPECIFICATIONS

4.1 Door, Frame and Hardware Schedule

DOOR #	***SIZE***	***MATERIAL***	***TYPE***	***HARDWARE FUNCTION***	***REMARKS***
D1, D2	3’ – 0” x 6’ – 8”	Insulated Fiberglass	Flush	Entrance	Sand/Salt Bldg.
D1 – D5	3’ – 0” x 6’ – 8”	Insulated Fiberglass	Flush	Entrance	Brine/Cold Stor. Bldg.

4.2 Key Schedule

A. Door D1, D2 (Sand/Salt Bldg) keyed alike and D1 through D5 (Brine/Cold Stor. Bldg.) keyed alike.
B. Key doors to Owner’s existing master key system.
C. Provide six copies of each key.

END OF SECTION

SECTION 08360

OVERHEAD DOORS

PART 1 - GENERAL

1.1 Summary

A. Work Included: Furnish and install overhead doors and accessories of the types, sizes and styles in the locations shown on the Drawings.
B. Related Work:
   1. Carpentry - Division 6

1.2 Shop Drawings

A. Six (6) copies of shop drawings shall be submitted to the Engineer for all doors fabricated off site and to be installed on site.
B. All shop drawings shall be submitted to the Engineer for review at least ten (10) days prior to incorporation into the work. All shop drawings shall be reviewed by the Engineer prior to incorporating into the work.

1.3 Delivery, Storage and Handling

A. Deliver doors and all necessary equipment in manufacturers unopened containers.
B. Store materials in a protective area to prevent damage of any nature.
C. Handle using manufacturer's recommendations.

1.4 Protection

A. Protect doors and equipment during and after installation from splashing or the accumulation of paint, concrete, mortar, or other foreign material.

PART 2 - PRODUCTS

2.1 Materials

A. Doors shall be of the following construction:
   1. 1 ½" minimum thick sections.
   2. Galvalume interior and exterior skin.
   3. Combined installed R value of 14 minimum.
   4. Thermal break between all interior and exterior metal skin.
B. Acceptable Manufacturers:
   1. Overhead Door Corporation Thermacore, Series 591.
   2. Raynor Company, ThermaSeal Basic
   3. Approved Equivalents.

2.2 Seals

A. Doors shall be equipped with the following seals:
   1. Joint seals between sections.
   2. Perimeter seals on ends of the exterior surface.
   3. A top seal in the top section to seal against the header.
   4. An astragal on the bottom section.
B. Doors shall have an air infiltration rate of 0.1 CFM/ft at a pressure difference of 0.112 H 0.
C. All seals shall be factory installed.

2.3 Weather-stripping

A. Head and jamb weather-stripping shall be EPDM rubber tube seals and door bottoms shall be rubber bulb-type seal.

2.4 Tracks and Hardware

A. Doors shall be equipped with 3" galvanized tracks.
B. Track rollers shall be hardened steel with ball bearing.
C. Tracks shall be angle mounted.
D. Hinges shall be galvanized steel, strap type hinge with 20 gauge reinforcement strips at each hinge location.

2.5 Operators

A. Provide draw bar type door operator Min. 1/2 HP, equivalent to LiftMaster Model DJ Industrial Duty.
B. Provide three-button control. Up/Down/Stop
C. Provide auxiliary chain hoist.
D. Provide solenoid brake to prevent door coasting.
E. Provide emergency manual operation feature.
F. Provide external radio control terminals.

2.6 Options

A. Doors shall be equipped with a bottom-sensing edge that stops or reverses the door's travel when meeting an obstruction.
B. Provide six portable remote control radio transmitters for door operator.

2.7 Warranty

A. Doors and hardware shall have a manufacturer's warranty for one year for all materials and workmanship.

PART 3 - EXECUTION

3.1 Installation

A. Install doors and hardware in accordance with approved shop drawings and manufacturer's instructions.
B. Test operation of doors and make all necessary adjustments to insure proper operation.

PART 4 - SUPPLEMENTAL SPECIFICATIONS

4.1 Door, Frame and Hardware Schedule

DOOR #	***SIZE***	***REMARKS***
OHD1 and OHD2	20’-0”W x 18’-0”H	Sand/Salt Building
OHD1 thru OHD 5	16’0” W x 14’0” H	Brine/Cold Storage Building

END OF SECTION

SECTION 09900

PAINTING

PART 1 - GENERAL

1.1 Summary

A. This work shall consist of all labor, materials and equipment necessary to complete painting as shown on the Drawings and as specified herein.
B. In general, all unfinished surfaces shall be painted or stained unless otherwise specified.

1.2 Submittals

A. Contractor shall submit color samples, manufacturer and paint specifications to the Engineer for review thirty (30) days prior to incorporation into the work. Provide six (6) copies of product information.

1.3 Scope of Work

A. This work shall include prefinishing and painting or staining of all exposed surfaces and specified unexposed surfaces, except factory or prefinished surfaces. Also included is touching up of prefinished surfaces as required and/or as approved by the Engineer.

PART 2 - PRODUCTS

2.1 Paint

A. All materials shall be top quality products of the type and texture as shown on the Drawings and/or as specified in Part 4 of these specifications.
B. Acceptable manufacturers include: Glidden, Olympic, California, Benjamin Moore, Sherwin Williams and other approved equivalents.
C. All colors shall be as selected by the Engineer from samples submitted by the Contractor.

2.2 Painting Accessories

A. Turpentine shall be pure gum spirits conforming to ASTM DB-65.
B. Putty shall be as recommended by paint or stain manufacturers and as approved by the Engineer.

PART 3 - EXECUTION

3.1 Preparation

A. Prior to painting or staining insure that all surfaces are finished and ready for application.
    1. Wood Surfaces:
        a. Sand to smooth finish and clean all dust from surfaces. Fill all nail holes, cracks and other irregularities with approved putty. Pre-color all putty to be used under natural finish wood.
        b. Shellac all knots and pitch streaks or pockets to prevent bleeding.
        c. Apply prime coat as recommended by manufacturer. Sand lightly where necessary to smooth surface.

    2. Metal Surfaces:
        a. Clean all grease, rust and dirt from surface. Feather edges of chipped paint on pre-painted items.
        b. If so approved by the Engineer, sandblast or wire brush all metal surfaces to obtain a suitable

surface for painting. This procedure will normally be required for refinishing previously painted surfaces which are chipping or peeling.

c. Prime metal surfaces with approved metal primers.

d. Galvanized and prefinished surfaces shall not be painted unless specified in Painting Schedule.

3.2 All Surfaces

A. Apply paint or stain only to clean, dry surfaces. Do not paint or stain in the rain or in very humid conditions.

B. Use masking tape, drop cloths and other means of protection to adequately protect adjacent surfaces from drips, spatters and overruns.

3.3 Application

A. Apply paint or stain as recommended by the manufacturer on properly prepared surfaces according to the paint schedule on the Drawings or in Part 4 of these Specifications.

B. Thoroughly brush or roll all coats to achieve a uniformly smooth coverage.

C. Allow each coat to dry 48 hours or longer if recommended by manufacturer before applying subsequent coats.

D. Do not apply paint, stain, varnish or shellac when temperatures are below 45EF unless provision for heating is made.

E. All finishes shall be smooth, free from runs and sags, streaks, brush fibers and other defects. All edges shall be straight and sharp.

F. Refinish and paint to match any existing adjacent areas which were disturbed as a result of the work.

3.4 Cleanup and Protection

A. Clean all areas of drippings, spatters and debris. Remove all masking tape and clean glass and other areas as required.

B. Touch up all defective areas to the satisfaction of the Engineer.

C. Protect all surfaces until acceptance by the Owner.

3.5 Touch-Up Materials

A. Provide Owner with at least one (1) unopened gallon can of all types and colors. Partially used cans shall also be left with the Owner.

PART 4 - SUPPLEMENTAL SPECIFICATIONS

4.1 Paint Schedule

SURFACE	***PRIMER***	***FINISH***
Fiberglass door and frame	1 coat acrylic latex	2 coats acrylic latex semi-gloss
Pipe Bollards	1 coat alkyd enamel rust inhibitor	2 coats alkyd enamel semi-gloss
Interior plywood and misc. wood	1 coat acrylic latex	2 coats acrylic latex egg shell

END OF SECTION

SECTION 15602

OIL-FIRED UNIT HEATER

PART 1 - GENERAL

1.1 Summary

A. Install a commercial oil-fired unit heater.
B. Install an oil tank complete.
C. Install metal chimney.
D. Perform all required electrical work, duct work, piping, masonry, etc.

1.2 Quality Assurance

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods for proper performance of the work of this Section.
B. Without additional cost to the Owner, provide such labor and materials as are required to complete the work of this Section in accordance with the requirements of governmental agencies having jurisdiction, regardless of whether such materials and associated labor are called for elsewhere in these Contract Documents.
C. All work shall comply with applicable standards of Maine Oil and Solid Fuel Board, BOCA Mechanical Code, and local building codes.

1.3 Licenses

A. Obtain all required licenses and permits.
B. Pay all fees as required to perform this work.
C. All work shall be performed under the supervision of a State of Maine licensed oil burner technician.

PART 2 - PRODUCTS

2.1 Furnace

A. Acceptable manufacturers are:
   1. Sterling Model QVOF-84.
   2. Approved Equivalents
B. The furnace shall:
   1. Be a #2 oil-fired.
   2. Efficient flame retention burner
   3. 18 gauge aluminized steel heat exchanger.
   4. Heavy duty fan, ¼ HP, 1750 CFM, summer fan operation option.
   5. Have a minimum seasonal efficiency of 80%.
   6. Factory assembled, UL listed.

2.2 Oil Tank

A. Oil tank shall be 330 Gallon painted steel with legs, gauge, and piping.

2.3 Oil Line

A. Oil line shall be 3/8" OD copper tubing suction. All joints shall be flared.

2.5 Controls

A. Thermostat shall be equivalent to Honeywell T87 with mounting plate.

2.6 Prefabricated Metal Chimney

A. Metal chimney shall be 20 gauge stainless steel, double wall, insulated chimney, UL listed and compatible with the unit heater. Provide sealants, supports and accessories as required.

2.7 Other Materials

A. Provide other materials not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION

3.1 General

A. Install oil-fire unit heater in full compliance with manufacturer's recommendations.
B. Install a service shutoff switch on the unit heater and an emergency switch near room entrance.
C. Install oil lines using a one line system. Use plastic covered clips to attach line to supports.
D. Provide and install an oil filter.
E. Install oil tank complete with vent, supply piping, emergency shutoff valve on outlet line.
F. Locate filter near furnace. Provide emergency shutoff valves on oil line.
G. Install metal chimney connected to the unit heater, through the roof and adequately supported with guy wires.
H. Install electrical wiring from the electrical panel.
I. Install a Barometric Draft Regulator.
J. Install thermostat for the oil fired unit heater.
K.

3.2 Surface Conditions

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.3 Coordination

A. Coordinate as required with other trades to assure proper and adequate provision of the work of those trades for interface with the work of this Section.

3.4 Testing and Adjusting

A. Test furnace in the presence of the Owner and Engineer for adequate air flow, acceptable noise levels, and operation.
B. Perform an efficiency test on the oil-fired furnace and record the results.
D. Provide instruction to Owner's Representative in the operation and maintenance of all equipment and controls.

END OF SECTION

SECTION 15622

EXHAUST FANS

PART 1 - GENERAL

1.1 Description

A. Work Included: Provide wall mounted exhaust fan, intake louver, controls and accessories where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Rough Carpentry 06100 and Metal Siding 07467.

1.2 Quality Assurance

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods for proper performance of the work of this Section.

1.3 Submittals

A. Submit: Shop drawings for all materials, equipment and accessories of this section.

PART 2 - PRODUCTS

2.1 Wall Mounted Exhaust Fan and Intake Louver

A. Furnish and install high-pressure belt drive fan, 1 ½ HP, 48" propeller diameter, wall mounted, 18,800cfm capacity at 1/8" S.P., single phase motor, epoxy coated unit, equivalent to Airmaster HA48KA.

B. Fan units shall be complete with balanced propellers and motor and include the following:

1. Aluminum wall collar.
2. Wire mesh safety guards on the propeller and motor side.
3. Motor mountings with vibration eliminators.
4. Epoxy coated steel weatherhood with bird screen..
5. Manual motor starter with overload protection.
6. Weather resistant epoxy coated steel wall shutter with motor operated shutters. Motor shall open shutters whenever the exhaust fan is operating. Provide mounting collar and weatherhood with bird screen for wall shutter.

2.2 Other Materials

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION

3.1 Surface Conditions

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 Coordination

A. Coordinate as required with other trades to assure proper and adequate provision of the work of those trades for interface with the work of this Section.

3.3 Preparation

B. Flashing:
   1. Where items of the Section penetrate the roof, outer walls or waterproofing of any kind, provide under this Section all base flashing and counter flashing required at such penetration.

3.4 Testing and Adjusting

A. Test and adjust each piece of equipment and each system as required to assure proper balance and operation.
   1. Test and regulate ventilation systems to conform to the air volumes shown on the approved design drawings.
   2. Make tests and adjustments in apparatus and ducts for securing the proper volume of air for each grille.

B. Eliminate noise and vibration and assure proper function of all controls and operation in accordance with the approved design.

END OF SECTION

SECTION 16050

ELECTRICAL WIRING

PART 1 - GENERAL

1.1 Summary

A. This work shall include all labor, materials, and equipment to install electrical wiring and accessories as shown on the drawings and as specified herein. Unless otherwise specified, this work shall include installing all wiring devices and making all electrical connections in other divisions.
B. Install 100A breaker in existing panel to supply power to new panel.
C. Install underground electrical conduit and conductors from existing building to new panel location.

1.2 References

A. All methods and materials shall conform to the applicable local, State and Federal codes and standards and of the following references:
   1. The National Electrical Code (latest edition) NEC
   2. National Electrical Manufacturer's Association (NEMA)
   3. Underwriter's Laboratories (UL)
   4. American Society of Testing Materials (ASTM)

1.3 Permits, Fees, Licenses

A. Contractor shall obtain and pay for all permits, fees, licenses and inspections required by appropriate jurisdictions in order to complete the work in accordance with applicable laws and codes. Provide a copy of the above along with any written inspection reports to the Engineer. Contractor shall contact the local power company prior to performing any work and arrange for meters and service connections.
B. Contractor shall obtain a final certificate of compliance for all electrical work.
C. All work shall be performed under the direct supervision of an electrician licensed in the State of Maine.

1.4 Submittals

A. Contractor shall furnish the Engineer six (6) copies of shop drawings for review 30 days prior to incorporation into the work.
B. Shop drawings or specifications shall be submitted for electrical wiring materials, panels, electrical equipment and controls.
C. Contractor shall furnish two (2) additional copies of all shop drawings, operating manuals, service manuals, parts lists, warranties (completed and submitted) and any other appropriate information for use of the Owner upon completion of the Project. This information shall be in 3-ring binders or similar binding.

PART 2 - PRODUCTS

2.1 Wiring and Cable

A. Conductors shall be copper, sized as per Article 310 of the NEC
B. A minimum size of #12 AWG wire shall be used on 20 or less Amp circuits.
C. Insulation shall have a minimum temperature rating of 75EC. (type THW) unless otherwise specified.
D. Conductors shall be sized so as to prevent a voltage drop in excess of that recommended by the NEC
E. A green, insulated grounding conductor shall be installed in all raceways and shall be sized as per Article 250 of the NEC
F. Conductors for general wiring shall be limited to uses as specified by Articles 310 and 400 of the NEC
G. Conductors over #8 shall be stranded.
H. All conductors shall be insulated.
I. Non-metallic sheathed cable may be used with the bare ground wire contained within the sheathing.

2.2 Electrical Accessories

A. Outlet and junction boxes shall be UL-Approved and of appropriate sizes. Metallic boxes shall be used with metal conduit, non-metallic boxes shall be used with non-metal conduit providing the size is under 4" x 4". Metallic boxes shall be used for larger boxes. Junction boxes and other uncovered boxes shall be covered with a galvanized cover plate or approved equivalent.
B. Wire nuts or other approved connectors shall be used for all connections. Use UL listed connectors of appropriate sizes.
C. Cable clamps shall be used at all junction boxes, panels, fixtures and equipment.
D. Provide all accessories required to fasten and install lighting units complete in place.

2.3 Conduit

A. The following conduit types may be used except as otherwise shown on the drawings or as specified by the NEC:
    1. Rigid non-metallic tubing (PVC);
    2. Electrical metallic tubing (EMT);
    3. Rigid metal conduit;
    4. Other as approved by the NEC and the Engineer.
B. All conduit shall be UL-Approved.
C. The Contractor shall use the most economical method of wiring which meets the requirements of the National Electric Code with the following exceptions:
    1. All wiring underground or in concrete shall be in conduit (minimum Schedule 40 PVC);
    2. Above ground wiring, in locations exposed to the weather shall be concealed in rigid metal conduit.
    3. Contractor shall install wiring straight, neat, and with all runs being parallel to building walls.

2.4 Receptacles

A. 15 Amp receptacles, as shown on the drawings, shall be Arrow-Hart or Leviton, specification grade, ivory color grounding.
B. 30 and higher amp receptacles shall be Arrow-Hart or Leviton, grounding, 250 V, receptacles shall be 4 wire.
C. All receptacles shall have weatherproof covers and shall meet NEMA WDI and Federal Specification WC596.

2.5 Lighting Switches

A. Switches shall be Arrow-Hart or Leviton, Specification Grade, ivory color, quiet action, 20 Amp rated. Provide SP, DP, 3W, 4W switches as shown on the Drawings. All switches shall have grounding terminal and weatherproof covers provided.
B. Switches shall meet Federal Specification WS 896 and NEMA WD1.

2.6 Nameplates

A. All electrical equipment installed by the Contractor shall be furnished with a nameplate.
B. Nameplates shall be white core laminated plastic with minimum 1/4" high letters.
C. Nameplates shall be fastened with screws.

2.7 Load Centers

A. All panel boards shall have hinged doors with locks and a 10,000 Amp interrupting capacity.
B. Breakers shall be plug-in type breakers, 1" per pole, 10,000 A.I.C.
C. All panel boards shall be equipped with a neutral bar insulated from the case enclosure and a ground bar electrically connected to the enclosure.
D. The directory shall be typed-on under plastic.

E. Acceptable manufacturers:
    1. General Electric
    2. ITE
    3. Square-D.

F. Panels shall have weatherproof enclosures.
G. Ty-wraps shall be used to bundle wiring.
H. Main disconnect shall be 100A plug-in breaker type complete with enclosure of the size and type as shown on the plans.
I. Panel shall be in a weatherproof enclosure suitable for mounting on the exterior of the building.

PART 3 - EXECUTION

3.1 Installation

A. All work shall be done in compliance with the National Electrical Code and applicable local, State and Federal rules and regulations as well as the local electric power company. Contractor shall coordinate his work with the local power company.
B. Provide all miscellaneous wire and materials to complete the work. It is not intended that each individual item be shown on the drawings or specified herein. The drawings show general locations and sizes of major equipment and fixtures and devices. See panel schedule and drawings for details.
C. Non-metallic sheathed cable, when allowed, shall be concealed in walls, ceilings or conduit.
D. All conduit shall be concealed except where otherwise shown on the drawings or approved by the Engineer.
E. In general, all switches shall be installed four (4) feet above finish floor and receptacles two (2) feet above finish floor. Other locations shall be as shown on the plans or approved by the Engineer.
F. Insure that all exposed switches, receptacles and fixtures are installed plumb, level and square and securely fastened.
G. Install light fixtures where shown on the Drawings complete with lamps, lenses and all accessories securely fastened in place.

3.2 Conduit and Cable

A. All conduit and cable shall be run as straight as possible using long sweep bends at corners and fastened with galvanized clips or hangers. Use bushings as required to protect wire.
B. All conduit and wiring shall be concealed except in boiler rooms, garage areas, and other areas as specified in Part 4 or as shown on the drawings. Sheathed cable shall be run on backerboard and/or through bored holes.
C. Underground conduit shall be free from water and other foreign material. Ends shall be applied or suitably sealed to prevent water entry.
D. All underground connections and connections in exterior junction boxes up to three (3) feet above grade shall be waterproofed and suitable for submerged operation.

3.3 Grounding

A. Provide all ground connections as required to junction boxes, conduit, receptacles, fixtures and equipment in accordance with the National Electrical Code.
B. Provide ground rods where shown on the drawings or as required by Code.
C. Comply with NEC, Article 2.10-5 for grounded conductors for various voltages or systems.

3.4 Accessibility

A. Install all fixtures, junction boxes, etc., to allow future access for repair or replacement.
B. Install conduit terminations to allow wires to be pulled without difficulty or damage to wire.

3.6 Testing

A. Test all circuits, fixtures and equipment to the satisfaction of the local electrical inspector and Engineer.
B. Replace any defective fixtures or materials at no cost to the Owner.
C. Prior to the start of checkout and testing, insure that all equipment is properly and permanently identified.
D. Check the bearings of all rotating electrical apparatus and, if required, have supplier fill with the grease or oil as recommended by the manufacturers.
E. Motors shall be checked for rotation and, if necessary, reversed.
F. All control circuits shall be functionally checked to see that their operation and sequence are correct. Any adjustable switches such as float switches, limit switches and timers shall be adjusted for proper operation.
G. Maintain written and properly witnessed test and check-out reports and submit these to the Engineer for Owner

prior to final acceptance of facilities.

H.

H. Just prior to acceptance of the lighting facilities, clean all lighting fixtures and relamp where required at no additional cost to the Owner.

3.7 Cleanup

A. Remove all debris, excess materials and trimmings from the site.
B. Clean all exposed switch and cover plates and all exposed equipment.
C. Prior to energizing switchgear equipment, motor control centers, motors, etc., thoroughly vacuum clean the equipment with an industrial type vacuum cleaner.

END OF SECTION

SECTION 16500

LIGHTING

PART 1 - GENERAL

1.1 Summary

A. This work shall include all labor, materials and equipment necessary to install lighting fixtures and accessories as shown on the drawings and as specified herein.
B. All work shall conform to the National Electrical Code and other applicable codes.

1.2 Submittals

A. Contractor shall submit six (6) copies of shop drawings of all lighting equipment and accessories at least 30 days prior to incorporation into the work.
B. Provide photometric data on all lighting units.

1.3 Permits

A. Contractor shall obtain and pay for electrical permit from local electrical inspector.
B. Copies of the permit shall be sent to Owner and the Engineer.

PART 2 - PRODUCTS

2.1 Light Fixtures

A. All fixtures shall be UL-Listed.
B. All fixtures shall be designed for the particular application on the Project. All exterior fixtures shall be weatherproof.
C. Plastic lenses shall be 100% virgin acrylic.
D. Acceptable manufacturers:
    1. Columbia
    2. Lithonia
    3. General Electric
    4. Approved equivalents.
    5. Fixture schedule is shown on the drawings.

2.2 Accessories

A. Provide all accessories required to fasten and install lighting units complete in place.

PART 3 - EXECUTION

3.1 Installation

A. Install light fixtures where shown on the drawings complete with lamps, lenses and all accessories securely fastened in place.
B. Follow manufacturer's instructions and recommendations completely.
C. Light fixtures shall be installed in accordance with the latest edition of the "National Electrical Code".

3.2 Cleanup and Testing

A. Test all fixtures and equipment to the satisfaction of the Engineer.
B. Repair or replace any defective fixtures, lamps or finishes.
C. Clean all fixtures and lenses at the completion of the Project.

3.3 Warrantee

A. All materials and work shall be warranted for one (1) year from date of acceptance by Owner.
B. Contractor shall supply a minimum of 10% spare lamps and 5% spare ballasts to the Owner at completion.
C. Any additional lamps beyond the spares provided shall be replaced at no additional cost to the Owner during the warranty period.

END OF SECTION

DEP PERMITS

The MaineDOT has obtained a Site Location of Development and Natural Resources Protection Act Permit from the Maine Department of Environmental Protection (DEP). The Contractor shall comply with the Permits and their conditions. Copies of the permits may be viewed at the MaineDOT headquarters in Augusta, Maine.

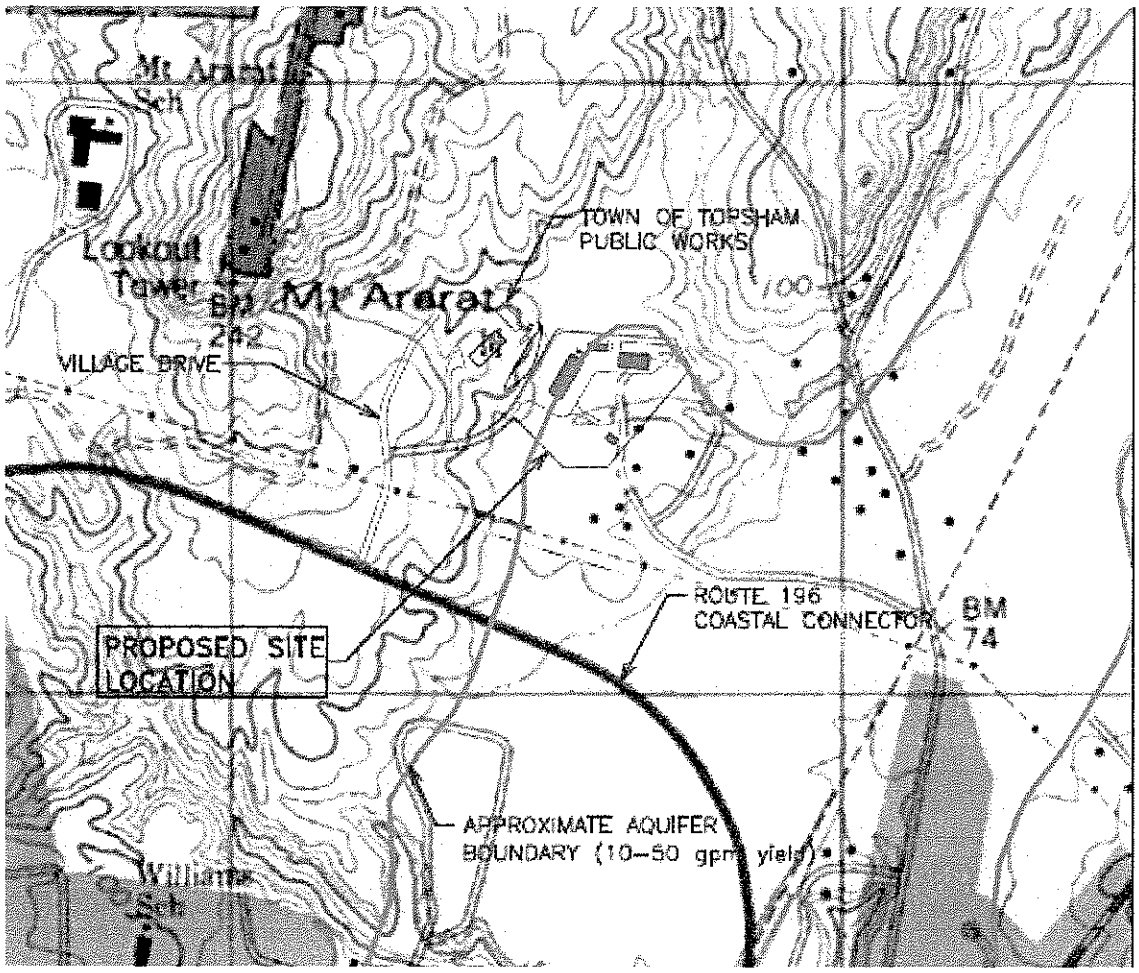
BLASTING ASSESSMENT

As part of the MaineDOT's Site Location of Development Permit from the Maine Department of Environmental Protection (DEP), the Contractor must comply with the requirements and recommendations of the following Blasting Assessment. Included in this requirement are the following: blasting plan, blasting schedule, pre-blast survey, groundwater testing, and blast monitoring.

All blasting shall comply with the Town of Topsham regulations.

BLASTING ASSESSMENT
PROPOSED TOPSHAM MAINTENANCE FACILITY
TOPSHAM, MAINE

04-0611.1 G MAY 05, 2005



04-0611.1 G

May 05, 2005

Dirigo Engineering
Attention: Mr. James Lord, P.E.
168 College Avenue
P.O. Box 557
Waterville, ME 04903-0557

Subject: Blasting Assessment
Proposed Topsham Maintenance Facility
Topsham, Maine

1.0 INTRODUCTION

In accordance with your request, we have developed the following assessment for construction blasting at the proposed Maine Department of Transportation (MDOT) Maintenance Facility in Topsham, Maine. It is our understanding that the purpose of the assessment is to provide guidance for contractors and regulators during construction blasting at the site.

2.0 SITE PLAN AND NARRATIVE

The site is located in the City of Topsham, about 500 to 1000 feet north of the Route 196 Coastal Connector, and north of the Central Maine Power Corridor. The Site Location of Development Application (revised February 2002) requires that a site plan be developed which indicates the "locations of all off-site structures and wells not owned or controlled by the applicant within 2000 feet of any blast site."

We understand that the blasting will primarily be associated with an access road to the facility. However, blasting may also be required for utilities associated with the development. A plan provided by Dirigo Engineering showing the anticipated area of blasting is presented on Sheet 1. A map showing the location of the facility is presented on the cover of this Assessment.

Information on grading and site features provided by Dirigo Engineering indicates that the depth of bedrock excavation requiring blasting will be equal to or less than 10 feet.

Overburden depths have not been explored throughout the area where blasting is anticipated, but it appears that the overburden is likely less than 10 feet deep. Nearby mobile homes and other structures may be served by private wells. The mobile homes appear to be situated more than 500 feet from the anticipated area of blasting.

3.0 ASSESSMENT

3.1 Anticipated Effects of Blasting

We believe that minimal adverse effects of blasting can be anticipated provided that blasting activities are done as outlined below and in general conformance with the "Blasting Guidance Manual," Office of Surface Mining, Reclamation, and Enforcement, U.S. Department of Interior (OSMRE).

3.2 Blasting Plan

A blasting plan should be prepared by the blasting contractor prior to the commencement of the blasting operation. The blasting plan should include proposed sketches of the location of each blast, drill patterns, delay periods, and decking. The plan should also indicate the type and amount of explosives to be used, including weight of explosives per delay, stemming, critical dimensions and the location and general description of structures to be protected.

3.2.a. Airblast

The blasting program should be designed so that sound at the property line (airblast) nearest the blasting should not exceed the following limits.

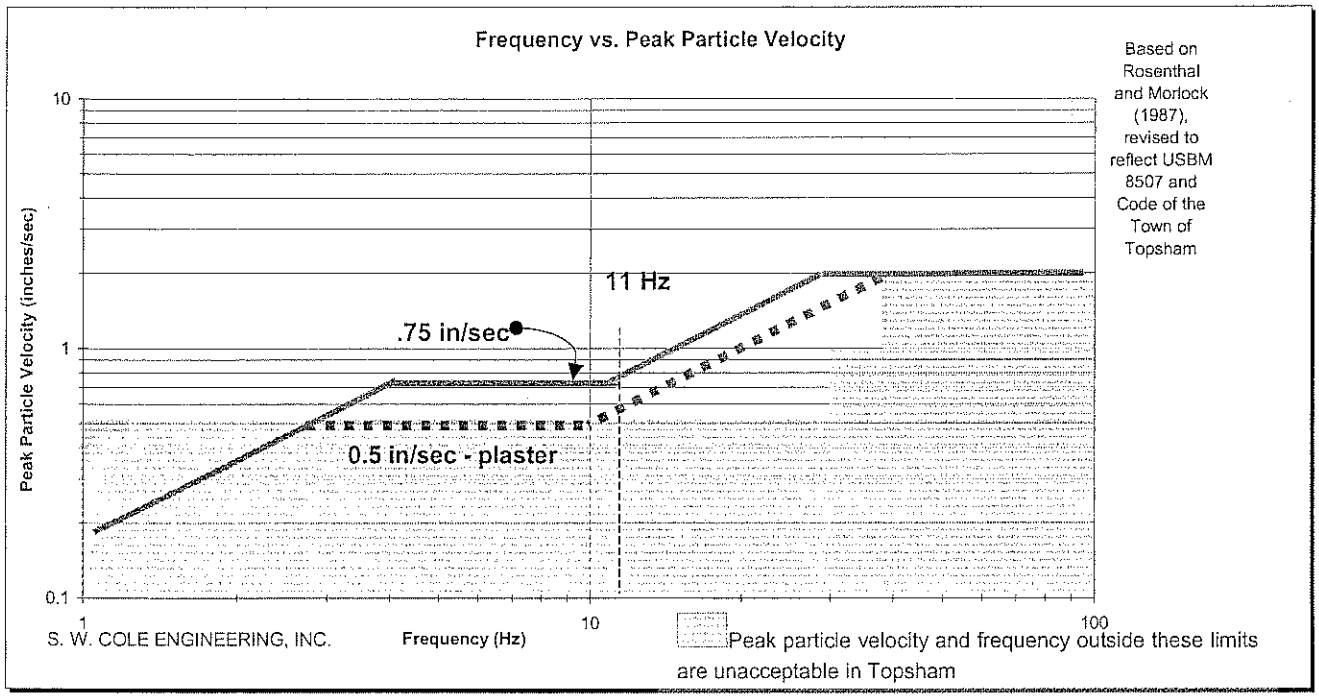
Lower Frequency Limit (Hz)	Max Level dB
2 or Lower	133 Peak
6 or Lower	129 Peak

3.2.b. Peak Particle Velocity and Frequency

U.S. Bureau of Mines RI 8507, (Figure B-1 of Appendix B) requires that frequency and peak particle velocity of blasts remain below the dashed line shown on the graph below at the structure nearest the blasting. The Town of Topsham (Code of the Town of

Topsham, Maine v14 Updated 8-1-2004, Part II General legislation, Chapter 85, Blasting §85-5 Performance Standards) requires that peak particle velocity at a frequency of up to 30 Hertz not exceed 0.5 inches per second; that from 31 to 40 Hertz, the peak particle Velocity not exceed 1.0 inches per second; and that for frequencies in excess of 40 Hertz, the peak particle velocity not exceed 2.0 inches per second. It has been our experience that blasts with a low frequency generally cause more public concern than those with a high frequency. In any case, we recommend that peak particle velocity not exceed 1.25 in/sec. We recommend that peak recorded particle velocities that exceed 1.25 in/sec be reported to the blaster as soon as the record is available.

The Town of Topsham requires that a seismographic record of each blast be provided to the Code Enforcement Officer, Town Planner and/or the Town of Topsham Planning Board.



It is our opinion that detailed pre-blast survey information and use of seismographs will provide better information for assessment of damage after the event than reference to a scaled distance.

3.3 Blasting Schedule

A blasting schedule should be prepared by the blaster and published in a newspaper of general circulation, in the locality of the site, at least 10, but no more than 30, days prior to the commencement of blasting. In addition, copies of the blasting schedule should be distributed to local governments and public utilities and to each local residence within 1/2 mile of the proposed blasting. The notices should be sent by first class mail in accordance with Code of the Town of Topsham, Maine v14 Updated 8-1-2004, Part II General legislation, Chapter 85, Blasting §85-6 Notices.

As outlined in 30 CFR 816.64, the notices should include the following:

- Name, address, and telephone number of operator
- Identification of the specific areas where blasting will occur
- Dates and times of blasts
- Methods to be used to control access to the area in which blasting is anticipated
- Entity to contact if a pre-blast survey or well test is being requested by the owner of the structure (name, address and telephone number)
- Description of the blasting signals to be used prior to the blast

In accordance with Town of Topsham regulations, notice shall be given to the Town of Topsham Code Enforcement Officer by telephone 24 hours before blasting commences. The time of blast should be defined within 2 hours. In addition, the Code Enforcement Officer should be notified of the following:

- Location of the planned detonation
- Amount of explosives to be used
- Name and business address of the person responsible for the blasting operation

Additional notification of the Code Enforcement Officer by telephone is required within the hour of proposed blasting, giving the time of blasting within 30 minutes.

3.4 Pre-Blast Survey

A pre-blast survey should be performed on all structures within 500 feet of the project. Structures outside of the 500-foot radius will not be surveyed unless a request for a survey is made in writing by the property owner.

An appointment for a pre-blast survey should be established with the owner of each structure at least 1 week prior to the blasting. The purpose of scheduling the pre-blast survey in advance of the blasting is to allow the blaster and the owner of the home or structure to arrange for access inside and outside each structure.

The pre-blast survey should include a photographic survey of the interior and exterior of each building with a video camera and 35 mm camera where applicable. A pre-blast survey form should be utilized and placed on file when the survey is completed. The form should provide information on the location of visual observations made at the particular buildings and grounds that are surveyed. All records of the pre-blast survey should be turned over to the Town of Topsham at the end of a period of 6 months after completion of construction.

3.5 Groundwater

It appears that some private wells are used for water supply within 1000 feet of the proposed blasting. We recommend that wells located within 1000 feet of the proposed blasting be tested for nitrate, turbidity and coliform prior to the blasting to establish baseline water quality. According to the Town of Topsham Maine Code (v14 Updated 8-1-2004, Part II General Legislation, Chapter 85, Blasting §85-5 Performance Standards), post-blast water quality testing should be provided for wells within 250 feet of the blast site "no sooner than 24 hours or no later than 48 hours following a blast." We further recommend that all private wells within 500 feet of the blast site be similarly tested after blasting is complete.

3.6 Blast Monitoring

A seismograph should be set up at the structure that is closest to the blasting operation and should measure the air blast, peak particle velocity and frequency of each shot.

Code of the Town of Topsham regulations (Chapter 85 §85-7 Instrumentation) requires that seismographs used in the blasting operation have the following minimum operating specifications:

- a seismic frequency range of 2 to 200 Hz
- a sound frequency of 2 to 200 Hz
- a velocity range from 0.02 to 4.0 inches per second
- a sound range from 110 to 140 dB
- capability of recording longitudinal, transverse and vertical peak particle motion
- wave-form recording

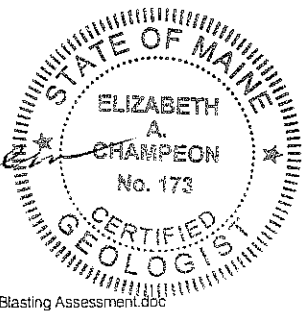
We recommend that the following information be recorded and printed out for each blast:

- Seismograph operator
- Date, location and time of blast
- Name of blaster in charge
- Type of material to be blasted
- Number of holes, burden and spacing
- Diameter and depth of holes
- Types of explosives used
- Amounts of explosives used
- Maximum amount of explosives per delay period of 8 milliseconds of greater
- Maximum number of holes per delay period of 8 milliseconds or greater
- Method of firing and type of circuit
- Weather conditions, including precipitation and cloud cover
- Instrument type
- Instrument calibration date
- Instrument location and its location relative to the blast, nearest structure
- Stratum or structure on which geophone has been placed during recording
- Distance to blast
- Peak particle velocity (in/sec) (horizontal, vertical and transverse)
- Frequency
- Airblast (dB or psi)

It has been a pleasure to assist you in this phase of your project.

Very truly yours,

S. W. COLE ENGINEERING, INC.



Elizabeth A. Champeon, C.G.
Senior Geologist

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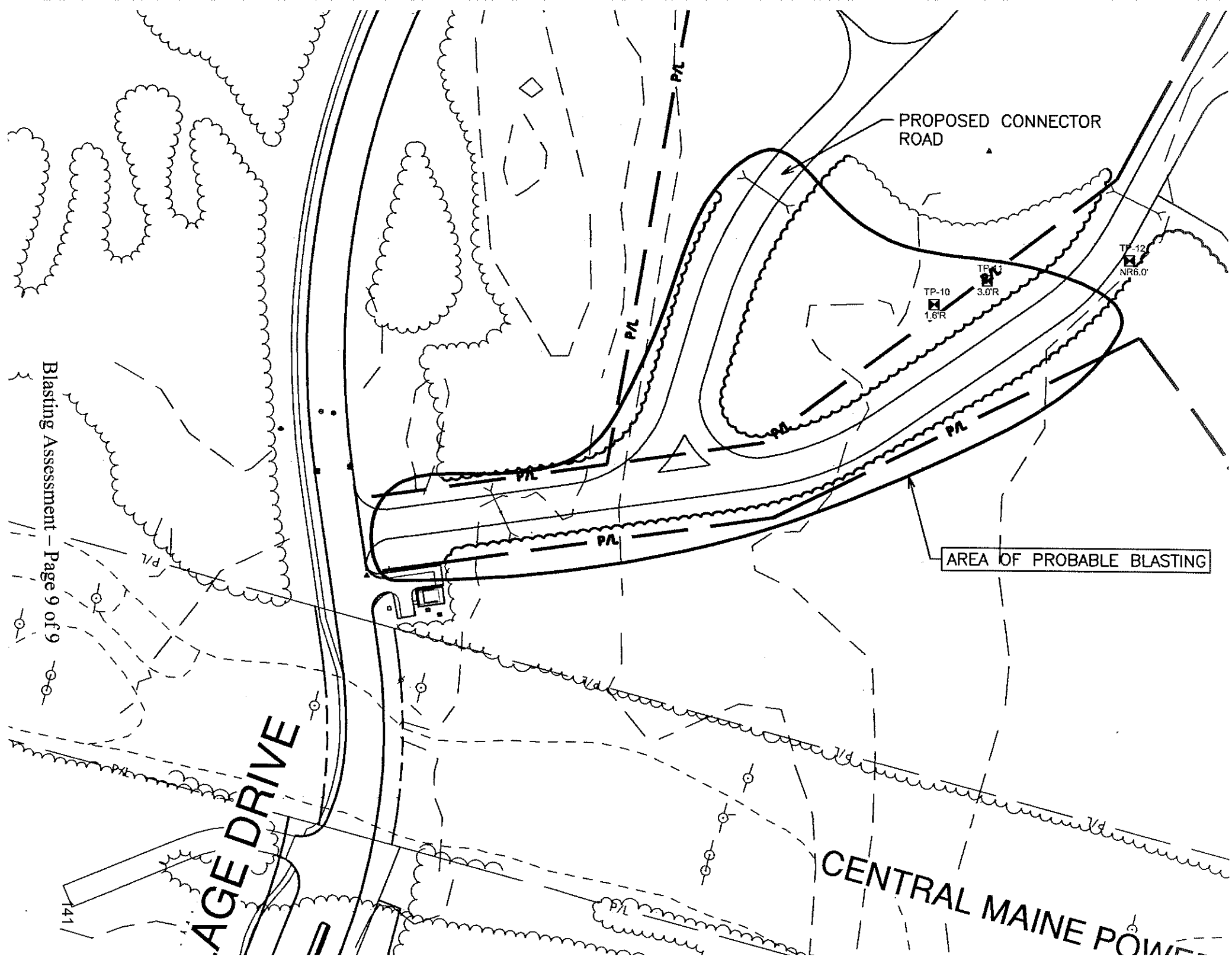

PROPOSED CONNECTOR ROAD
TP-12
NR6.0'
TP-11
3.0'R
TP-10
1.6'R
AREA OF PROBABLE BLASTING
AGE DRIVE
CENTRAL MAINE POWER

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

MAINE DEPARTMENT OF TRANSPORTATION	) SITE LOCATION OF DEVELOPMENT ACT
Topsham, Sagadahoc County	) NATURAL RESOURCES PROTECTION ACT
MAINTENANCE GARAGE	) WATER QUALITY CERTIFICATION
L-22469-26-A-N / L-22469-TD-B-N (approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M R.S A Sections 481 et seq and 480-A et seq, and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of MAINE DEPARTMENT OF TRANSPORTATION with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS

1 PROJECT DESCRIPTION

A Summary The applicant proposes to construct a maintenance facility to serve its region #1 operations The facility will be constructed in phases on a 13 15-acre parcel adjacent to the Town of Topsham's public works center and include a paved access road (partly on Town of Topsham property), a 19,200 square foot maintenance vehicle garage, a 10,000 gallon above ground storage tank, a 4,800 square foot secondary garage, cold storage and brine operations building, a 12,800 square foot sand/salt storage building, a 2,400 square foot refrigerated storage building, vehicle parking lots, and gravel operations area, all shown on a set of plans the first of which is entitled "Proposed Site Plan," prepared by the Shawmut Design Group, and dated June 6, 2005, with a last revision date of September 14, 2005 The project site is located on Village Drive in the Town of Topsham

B Current Use of Site The site of the proposed project is currently undeveloped fields and woodland There are no structures on the property

2 FINANCIAL CAPACITY

The total cost of the project is estimated to be $4,531,000 Funding for the project will be through the Maine Department of Transportation's Capital Funding budget The only portion of the project that will be funded differently is the sand/salt storage building and associated equipment This will be paid for through Sand Salt Storage Program Appropriations As the project is proposed in phases the funding will also be funded in phases Phase I and IV will be funded by regular appropriations, and Phase II and III will be funded by special appropriations

The Department finds that the applicant has demonstrated adequate financial capacity to comply with Department standards

3 TECHNICAL ABILITY

The applicant provided resume information for key persons involved with the project and a list of projects successfully constructed by the applicant The applicant also retained the services of the Shawmut Design Group, a professional engineering firm, to assist in the design and engineering of the project

The Department finds that the applicant has demonstrated adequate technical ability to comply with Department standards

4 NOISE

The Department finds that no regulated sources of noise have been identified

5 SCENIC CHARACTER

The proposed project is located in a developed area consistent with the proposed activity The proposed site is bordered by the Town of Topsham's public works garage and sand/salt building

Based on the project's location and design, the Department finds that the proposed project will not have an unreasonable adverse effect on the scenic character of the surrounding area

6 WILDLIFE AND FISHERIES

The Maine Department of Inland Fisheries & Wildlife (MDIFW) reviewed the proposed project In its comments, MDIFW stated that it found no records of any essential or significant wildlife habitats, or other wildlife habitats of special concern associated with this site No fisheries concerns were identified

The Department finds that the applicant has made adequate provision for the protection of wildlife and fisheries

7 HISTORIC SITES AND UNUSUAL NATURAL AREAS

The Maine Historic Preservation Commission reviewed the proposed project and stated that it will have no effect upon any structure or site of historic, architectural, or archaeological significance as defined by the National Historic Preservation Act of 1966

The Maine Natural Areas Program database does not contain any records documenting the existence of rare or unique botanical features on the project site and, as discussed in

Finding 6, MDIFW did not identify any unusual wildlife habitats located on the project site

The Department finds that the proposed development will not have an adverse effect on the preservation of historic sites or unusual natural areas either on or near the development site

8 BUFFER STRIPS

The applicant proposes buffers as part of the stormwater management system as described in Finding 11 The applicant proposes to construct a 10-foot tall earthen berm on the north side of the site and plant vegetation on the berm The applicant also proposes a 50-foot strip along the north and east sides of the lot for additional visual buffers

The Department finds that the applicant has made adequate provision for buffer strips

9 SURFACE WATER QUALITY

The proposed project includes approximately 6 91-acres of impervious area and is located within the watershed of Tedford Brook, a sensitive and threatened tributary of the Cathance River Because of the project's location and size, stormwater runoff from the project site must be treated to meet the sliding scale total suspended solids (TSS) standard outline in Chapter 500 of the Department Rules The applicant proposes to remove 70% of TSS from the project's stormwater runoff

As discussed in Finding 11, the applicant's proposed stormwater management system was reviewed by, and revised in response to, comments from the Division of Watershed Management of the Bureau of Land and Water Quality (DWM) Specific aspects of the system, including measures to protect water quality, are further discussed in Finding 11

Based on the stormwater management system's design and the comments discussed above, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the stormwater quality standards contained in Department Rules, Chapter 500 and to ensure that the project will not have an unreasonable adverse impact on surface water quality

10 SOILS

The applicant submitted a class A high intensity soil survey map and report based on the soils found at the project site This report was prepared by a registered professional engineer and reviewed by staff from the Division of Environmental Assessment of the Bureau of Land and Water Quality (DEA)

The Department finds that, based on this report and DEA's review, the soils on the project site present no limitations to the proposed project that cannot be overcome through standard engineering practices

11 STORMWATER MANAGEMENT

The applicant proposes to utilize a stormwater management system consisting of under-drained grass filter basins, level spreaders, and buffers This system is based on estimates of pre- and post-development stormwater runoff flows obtained by using the methodology outlined in "Urban Hydrology for Small Watersheds," Technical Release #20, U S D A , Soil Conservation Service and detains stormwater from 24-hour storms of 2-, 10-, and 25-year frequency The post-development peak flow from the site will not exceed the pre-development peak flow from the site and the peak flow of the receiving water will not be increased as a result of stormwater runoff from the development site The stormwater management system proposed by the applicant was reviewed by, and revised in response to, comments from the Division of Watershed Management of the Bureau of Land and Water Quality (DWM)

STORMWATER QUANTITY CONTROL The applicant proposes to construct a maintenance facility including structures as described in Finding 1 The development will add approximately 6 91-acres of new impervious area to the site, increasing runoff rates significantly To mitigate these increases, the applicant will install and maintain three under-drained grass filter basins to capture and slowly release runoff from the site Together, these basins will keep post-development peak flow rates to the site's east property line at or slightly below pre-development levels for the 2-year, 10-year, and 25-year storms Discharge from the basins will be via level spreaders to wetlands adjacent to a natural swale running east off the site

Locations of the proposed under-drained grass filter basins can be found on plan sheet #2a entitled "Proposed Site Plan," prepared by the Shawmut Design Group, and dated by revision September 14, 2005 Grading for the basins can be found on plan sheet #6 entitled "Site Grading & Erosion Control Plan," prepared by the Shawmut Design Group, and dated by revision September 14, 2005 Details and specifications for constructing the basins can be found on plan sheet #10 entitled "Detention Basin Details," prepared by the Shawmut Design Group, and date by revision September 14, 2005

STORMWATER QUALITY CONTROL Runoff from the proposed project drains to Tedford Brook, a sensitive and threatened tributary of the Cathance River This requires that the project include treatment measures to meet the sliding scale TSS standard Under this standard, the treatment measures must remove at least 64% of the total suspended solids from the site's impervious area runoff before it is discharged off the site or to protected natural resources on the site To do this, the applicant will install three under-drained grass filter basins on the site and preserve five wooded buffers on the site to treat runoff from most of the site's impervious area Together, these measures achieve a TSS removal rate of approximately 70% for the site As shown on the plan sheet #2a prepared

by the Shawmut Design Group, and dated by revision September 14, 2005, all buffers that will serve as stormwater Best Management Practices (BMPs) for quality treatment must be protected from alteration through the execution of a conservation easement The Department has third-party rights of enforcement to the conservation easement The applicant must file finalized conservation easements for the stormwater buffer areas referencing the revised site plans, dated September 14, 2005, with the Sagadahoc County Registry of Deeds prior to construction Evidence of filing must be submitted to the Bureau of Land and Water Quality, Division of Land Resource Regulation, within 30 days of the filing date Evidence must consist of copies of the restrictions stamped with the book and page numbers or accompanied by a letter from the Registrar

Locations of the under-drained grass filters and wooded buffers can be found on plan sheet #2a entitled "Proposed Site Plan," prepared by the Shawmut Design Group" and dated by revision September 14, 2005 Grading, details, and specifications for the under-drained grass filters can be found on the plan sheets referenced under stormwater quantity control above

Based on the system's design and these comments, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the stormwater quantity standards for (1) peak flow from the site and peak flow of the receiving waters, (2) grading or other construction activity, (3) channel limits and runoff areas, (4) detention basins, (5) maintenance, (6) easements and covenants, (7) buffers, (8) discharge to freshwater or coastal wetlands, (9) level spreaders, and (10) wellhead protection areas of public water supplies

12 MAINTENANCE OF COMMON FACILITIES

The applicant will be responsible for the maintenance of all common facilities including the road and stormwater management system, which maintenance will include, but not be limited to, any necessary erosion and sedimentation control measures, and the long-term maintenance of the stormwater management system as outlined in Section 13 of the application The applicant has submitted an acceptable inspection and maintenance plan for the facility's stormwater management system

13 EROSION AND SEDIMENTATION CONTROL

The applicant submitted an Erosion and Sedimentation Control Plan as Section 14 of the application This plan and plan sheets containing erosion control details were reviewed by, and revised in response to the comments of DWM The applicant prepared an acceptable erosion and sediment control plan for the facility's construction and stabilization Construction is expected to disturb approximately 8 5-acres Critical areas for control include the wetlands adjacent to the swale running east off the site and wetlands southeast of the proposed facility Controls proposed for the site include sediment barriers, stone check dams, and daily mulching adjacent to wetland areas The proposed detention basin at the center of the site will also be used for sediment removal

during construction Locations of the proposed installation of structural controls can be found on plan sheets #5 and #6 entitled "Site Grading & Erosion Control Plan," prepared by the Shawmut Design Group, and dated by revision September 14, 2005 Details and specifications for the controls can be found on plan sheet #11 entitled "Stormwater Treatment & Erosion Control Details," prepared by the Shawmut Design Group, and dated by revision September 14, 2005 and in section 14 of the permit application (Volume 2 revised on September 15, 2005)

The Department finds that the applicant has made adequate provision to control erosion and sedimentation

14 GROUNDWATER

The project site is partially located over a mapped significant sand and gravel aquifer with an estimated potential yield of 10 to 50 gallons per minute as confirmed by a DEA geologist

There are several potential sources of contamination in the proposed development; however, the applicant has address each potential and minimized to the greatest extent practicable The site will be connected to the public sanitary sewer collection and treatment system therefore limiting the potential for contamination from the wastewater system The salt brine will be mixed inside the building with the storage tanks adjacent to the salt building on a concrete pad The applicant applied for and received a variance form the Department's Division of Water Resource Regulation for the sand/salt building to be placed on the aquifer The maintenance garage and truck wash bay will be surrounded by pavement and will have concrete floors with floor drains that discharge to the public sewer system The proposed 10,000-gallon fuel storage tank and pump station will be located on the site to supply both heating and truck fuel The tank will be a horizontal double wall tank and located on pavement near the center of the site

The applicant has submitted a SPCC Plan for the 10,000 gallon fuel storage tank This plan includes all equipment, training, and response procedures related to the above ground fuel storage tank The applicant also submitted the Bureau of Maintenance and Operations Environmental Policies & Procedures Manual This manual addresses various aspects of a Groundwater Protection Plan such as the Environmental and Safety Auditing, Emergency Preparedness and Response Planning, Hazardous Waste Management, Hazardous Chemicals Handling and Storage, Floor Drain Management, etc

The Department finds that the proposed project will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur Therefore the Department further finds that the proposed project will not have an unreasonable adverse effect on ground water quality

15 WATER SUPPLY

When completed, the proposed project is anticipated to use approximately 750 gallons of water per day during the months of May to October, approximately 4,700 gallons per day during the months of October to May, with a maximum design flow of 18,750 gallons per day for months between October through May Water will be supplied by the Brunswick-Topsham Water District The applicant submitted a letter from the District, dated October 18, 2004, indicating that it will be capable of servicing this project

The Department finds that the applicant has made adequate provision for securing and maintaining a sufficient and healthful water supply

16 WASTEWATER DISPOSAL

When completed, the proposed project is anticipated to discharge approximately 750 gallons of wastewater per day The Topsham Sewer District owns and operates the sewer collection system, treatment is provided by the Brunswick Sewer District The Topsham Sewer District stated that it has the capacity will accept these flows, and has indicated that the proposed development could discharge to either Village Drive with a pump station and private force main, or through a gravity sewer main along King Street down to Tedford Road The applicant submitted a letter from the Brunswick Sewer District dated October 13, 2004 stating that they have the capacity to treat the amount of anticipated wastewater discharge from this project This project was reviewed by the Division of Engineering, Compliance and Technical Assistance of the Bureau of Land and Water Quality (DECTA), which commented that the Topsham and Brunswick Sewer Districts have the capacity to transport and treat these flows and are operating in compliance with the water quality laws of the State of Maine DECTA commented that if the applicant chooses to install a pump station and force main, the design plans and specifications must be submitted to the Department for review and approval prior to construction of the water/wastewater system

Based on DECTA's comments, the Department finds that the applicant has made adequate provision for wastewater disposal at a facility that has the capacity to ensure satisfactory treatment

17 SOLID WASTE

When completed, the proposed project is anticipated to generate 20 86 tons of (household, general office, etc.) solid waste per year All general solid wastes from the proposed project will be disposed of at the Bath Landfill, which is currently in substantial compliance with the Solid Waste Management Regulations of the State of Maine

The proposed project will generate stumps and grubbings All stumps and grubbings generated will be disposed of on site, either chipped or burned, with the remainder to be

worked into the soil, in compliance with Solid Waste Management Regulations of the State of Maine provided that the chipper is on site less than 30 days and that all stockpiled chips are utilized as erosion control material within 30 days of completing chipping

The proposed project will generate minimal amounts of construction debris and demolition debris All construction and demolition debris generated will be disposed of at the Bath Landfill, which is currently in substantial compliance with the Solid Waste Management Regulations of the State of Maine

Based on the above information, the Department finds that the applicant has made adequate provision for solid waste disposal

18 FLOODING

The proposed project is not located within the 100-year floodway of any river or stream

The Department finds that the proposed project is unlikely to cause or increase flooding or cause an unreasonable flood hazard to any structure

19 WETLAND IMPACTS

The applicant proposes to alter 18,000 square feet of freshwater forested and scrub shrub wetland to construct a maintenance facility as described in Finding 1 There are two wetland complexes on the parcel designated Wetland A and B These wetlands are part of the same wetland system and are both classified as forested/scrub shrub wetlands Wetland A includes a small intermittent stream channel that appears to continue off site to the south Wetland A has four areas of disturbance for a total of 17,000 square feet Wetland B has only one area of impact for the access road equaling approximately 1,000 square feet The Wetland Protection Rules, Chapter 310 require that the applicant to meet the following standards

a Avoidance No activity, which would cause a loss in wetland area, functions and values, will be permitted if there is a practicable alternative to the project that will be less damaging to the environment The applicant submitted an alternative analysis for the proposed project The alternative analysis stated that the applicant seriously considered different locations within the immediate area excluding them due to difficult access to the site, high visibility and strong opposition to the other sites Once the site was chosen, the applicant worked closely with a consultant to develop a site layout that provided for the needs of the applicant and avoided as much wetland disturbance as possible

b Minimal Alteration The applicant is required to minimize the amount of wetland alteration while meeting the project's purpose The applicant presented six design layouts and chose the layout with the least amount of impact while still meeting project purpose and need

c Compensation The applicant is required to replace lost wetland functions and values associated with the proposed wetland In accordance with Chapter 310, neither a functional assessment nor compensation is required for freshwater wetland alterations totaling less than 20,000 square feet Therefore, the Department did not require that the applicant perform a function and value assessment of the wetland and or provide compensation for the proposed impacts to the wetland

The Department finds that the applicant has avoided and minimized wetland impacts to the greatest extent practicable, and that the proposed project represents the least environmentally damaging alternative that meets the project's purpose

20 BLASTING

The applicant anticipates blasting for the construction of the road and installation of utilities The applicant submitted a blasting assessment prepared by a certified geologist at S W Cole Engineering, Inc The blasting assessment was review by, and revised in response to comments from the Department's Division of Environmental Assessment (DEA) The applicant must submit a signed pre-blast survey and blasting plan, prepared by the contractor, to the Department for review and approval prior to any blasting The applicant must adhere to the assessment submitted in the application Any variation to this plan must be submitted to the Department for review and approval prior to blasting

21 AIR QUALITY

The Department finds that no significant source of air emissions has been identified

22 ODORS

No significant sources of odors have been identified

23 ALTERATION OF CLIMATE/WATER VAPOR

The proposed project does not involve any significant sources of water vapor emissions

24 ACCESS TO SUNLIGHT

The proposed project will not cast shadows on any adjacent properties

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M R S A Sections 480-A et seq and Section 401 of the Federal Water Pollution Control Act

A The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses

B The proposed activity will not cause unreasonable erosion of soil or sediment

C The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment provided that the project is completed as proposed and that the applicant meets all of the requirements in Finding 11

D The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life

E The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters

F The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters provided that the project is completed as proposed and that the applicant meets all of the requirements in Finding 11

G The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties

H The proposed activity is not on or adjacent to a sand dune

I The proposed activity is not on an outstanding river segment as noted in 38 M R S A Section 480-P

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M R S A Sections 481 et seq

A The applicant has provided adequate evidence of financial capacity and technical ability to develop the project in a manner consistent with state environmental standards

B The applicant has made adequate provision for fitting the development harmoniously into the existing natural environment and the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities

C The proposed development will be built on soil types which are suitable to the nature of the undertaking and will not cause unreasonable erosion of soil or sediment nor inhibit the natural transfer of soil

D The proposed development meets the standards for storm water management in Section 420-D and the standard for erosion and sedimentation control in Section 420-C provided that the project is completed as proposed and that the applicant meets all of the requirements in Finding 11

E The proposed development will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur

F The applicant has made adequate provision of utilities, including water supplies, sewerage facilities, solid waste disposal and roadways required for the development and the development will not have an unreasonable adverse effect on the existing or proposed utilities and roadways in the municipality or area served by those services provided that the project is completed as proposed and that the applicant meets all of the requirements in Findings 16, 17 and 20

G The activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties nor create an unreasonable flood hazard to any structure

THEREFORE, the Department APPROVES the application of MAINE DEPARTMENT OF TRANSPORTATION to construct a maintenance garage, SUBJECT TO THE FOLLOWING CONDITIONS and all applicable standards and regulations

1 The Standard Conditions of Approval, a copy attached

2 In addition to any specific erosion control measures described in this or previous orders, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval

3 The applicant shall file finalized conservation easements for the stormwater buffer areas referencing the revised site plans, dated September 14, 2005, with the Sagadahoc County Registry of Deeds prior to construction Evidence of filing shall be submitted to the Bureau of Land and Water Quality, Division of Land Resource Regulation, within 30 days of the filing date Evidence shall consist of copies of the restrictions stamped with the book and page numbers or accompanied by a letter from the Registrar

4 If the applicant chooses to install a pump station and force main, design plans and specifications shall be submitted to the Department for review and approval prior to construction of the water/wastewater system

5 The chipper shall be on site less than 30 days from start of clearing and all stockpiled chips shall be utilized as erosion control material within 30 days of completing chipping

6 The applicant shall submit a signed pre-blast survey and blasting plan, prepared by the contractor, to the Department for review and approval prior to any blasting The applicant shall adhere to the contingency plan submitted in the application Any variation to this plan shall be submitted to the Department for review and approval prior to blasting

7 Severability The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES

DONE AND DATED AT AUGUSTA, MAINE, THIS 27TH DAY OF December, 2005

DEPARTMENT OF ENVIRONMENTAL PROTECTION

By _____, for
DAVID P LITTELL, ACTING COMMISSIONER

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application June 17, 2005
Date of application acceptance June 24, 2005

Date filed with Board of Environmental Protection
LK/55557/55558/L22469AN/L22469BN

FILED
DEC 28 2005
BOARD OF ENVIRONMENTAL PROT
STATE OF MAINE

SITE LOCATION OF DEVELOPMENT (SITE)
STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL.

1. This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposals and supporting documents is subject to the review and approval of the Board prior to implementation. Further subdivision of proposed lots by the applicant or future owners is specifically prohibited, without prior approval by the Board of Environmental Protection, and the applicant shall include deed restrictions to this effect.

2. The applicant shall secure and comply with all applicable Federal, State and local licenses, permits, authorizations, conditions, agreements, and orders, prior to or during construction and operation as appropriate.

3. The applicant shall submit all reports and information requested by the Board or Department demonstrating that the applicant has complied or will comply with all conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

4. Advertising relating to matters included in this application shall refer to this approval only if it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.

5. Unless otherwise provided in this approval, the applicant shall not sell, lease, assign or otherwise transfer the development or any portion thereof without prior written approval of the Board where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval shall be granted only if the applicant or transferee demonstrates to the Board that the transferee has the technical capacity and financial ability to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant.

6. If the construction or operation of the activity is not begun within two years, this approval shall lapse and the applicant shall reapply to the Board for a new approval. The applicant may not begin construction or operation of the development until a new approval is granted. Reapplications for approval shall state the reasons why the development was not begun within two years from the granting of the initial approval and the reasons why the applicant will be able to begin the activity within two years from the granting of a new approval, if granted. Reapplications for approval may include information submitted in the initial application by reference.

7. If the approved development is not completed within five years from the date of the granting of approval, the Board may reexamine its approval and impose additional terms or conditions or prescribe other necessary corrective action to respond to significant changes in circumstances which may have occurred during the five-year period.

8. A copy of this approval must be included in or attached to all contract bid specifications for the development.

9. Work done by a contractor pursuant to this approval shall not begin before the contractor has been shown by the developer a copy of this approval.

(2/81)/Revised November 1, 1979

DEPLW 148

NATURAL RESOURCE PROTECTION ACT (NRPA)
STANDARD CONDITIONS

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCE PROTECTION ACT, TITLE 38, M.R.S.A. SECTION 480-A ET.SEQ. UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

A **Approval of Variations From Plans.** The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation

B **Compliance With All Applicable Laws** The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate

C **Erosion Control.** The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval

D **Compliance With Conditions.** Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated

E **Initiation of Activity Within Two Years.** If construction or operation of the activity is not begun within two years, this permit shall lapse and the applicant shall reapply to the Board for a new permit The applicant may not begin construction or operation of the activity until a new permit is granted Reapplications for permits shall state the reasons why the applicant will be able to begin the activity within two years form the granting of a new permit, if so granted Reapplications for permits may include information submitted in the initial application by reference

F **Reexamination After Five Years.** If the approved activity is not completed within five years from the date of the granting of a permit, the Board may reexamine its permit approval and impose additional terms or conditions to respond to significant changes in circumstances which may have occurred during the five-year period

G **No Construction Equipment Below High Water.** No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit

H **Permit Included In Contract Bids.** A copy of this permit must be included in or attached to all contract bid specifications for the approved activity

I **Permit Shown To Contractor.** Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit

Revised (4/92)
DEP LW0428

Erosion Control

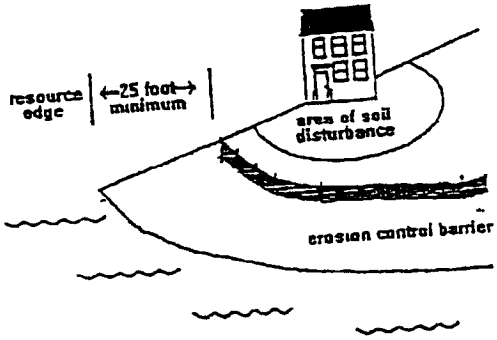
Before Construction

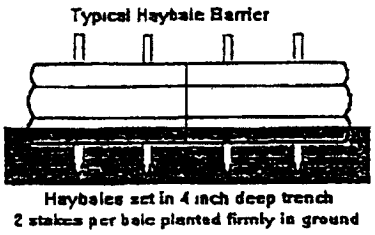
1 If you have hired a contractor, make sure you have discussed your permit with them Talk about what measures they plan to take to control erosion. Everybody involved should understand what the resource is and where it is located Most people could identify the edge of a lake or a river The edges of wetlands, however, are often not obvious Your contractor may be the person actually pushing dirt around but you are both responsible for complying with the permit.

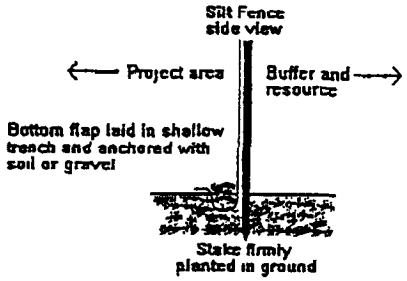
2 Call around and find sources for your erosion controls You will probably need silt fence, hay bales and grass seed or conservation mix Some good places to check are feed stores, hardware stores, landscapers and contractor supply houses It is not always easy to find hay or straw during late winter and early spring It may also be more expensive during those times of year Plan ahead Purchase a supply early and keep it under a tarp

3 Before any soil is disturbed, make sure an erosion control barrier has been installed The barrier can be either a silt fence, a row of staked hay bales, or both. Use the drawings below as a guide for correct installation and placement The barrier should be placed as close as possible to the activity.

4 If a contractor is installing the barrier, double check it as a precaution Erosion control barriers should be installed "on the contour", meaning at the same level along the land slope, whenever possible This keeps stormwater from flowing to the lowest point of the barrier where it builds up and overflows or destroys it.







During Construction

1 Use lots of hay or straw mulch on disturbed soil. The idea behind mulch is to prevent rain from striking the soil directly. It is the force of raindrops striking the soil that causes a lot of erosion. More than 90% of erosion is prevented by keeping the soil covered

2 Inspect your erosion control barriers frequently This is especially important after a rainfall. If there is muddy water leaving the project site, then your erosion controls are not working as intended In that situation, stop work and figure out what can be done to prevent more soil from getting past the barrier

After Construction

1 After the project is complete, replant the area. All ground covers are not equal For instance, a mix of creeping red fescue and Kentucky bluegrass is a good choice for lawns and other high maintenance areas The same mix would not be a good choice for stabilizing a road shoulder or a cut bank that you don't intend to mow

2 If you finish your project after September 15, then do not spread grass seed There is a very good chance that the seed will germinate and be killed by a frost before it has a chance to become established Instead, mulch the site with a thick layer of hay or straw In the spring rake off the mulch and seed the area Don t forget to mulch again to hold in moisture and prevent the seed from washing away

3 Keep your erosion control barrier up and maintained until the area is permanently stabilized

DEP INFORMATION SHEET

Appealing a Commissioner's Licensing Decision

Dated. May 2004 **Contact: (207) 287-2811**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner (1) in an administrative process before the Board of Environmental Protection (Board), or (2) in a judicial process before Maine's Superior Court This INFORMATION SHEET, in conjunction with consulting statutory and regulatory provisions referred to herein, can help aggrieved persons with understanding their rights and obligations in filing an administrative or judicial appeal

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

DEP's *General Laws*, 38 M R S A § 341-D(4), and its *Rules Concerning the Processing of Applications and Other Administrative Matters* (Chapter 2), 06-096 CMR 2 24 (April 1, 2003)

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written notice of appeal within 30 calendar days of the date on which the Commissioner's decision was filed with the Board Appeals filed after 30 calendar days will be rejected

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017, faxes are acceptable for purposes of meeting the deadline when followed by receipt of mailed original documents within five (5) working days Receipt on a particular day must be by 5 00 PM at DEP's offices in Augusta, materials received after 5 00 PM are not considered received until the following day The person appealing a licensing decision must also send the DEP's Commissioner and the applicant a copy of the documents All the information listed in the next section must be submitted at the time the appeal is filed Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

The materials constituting an appeal must contain the following information at the time submitted

1 *Aggrieved Status* Standing to maintain an appeal requires the appellant to show they are particularly injured by the Commissioner's decision

2 *The findings, conclusions or conditions objected to or believed to be in error* Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal

3 *The basis of the objections or challenge* If possible, specific regulations, statutes or other facts should be referenced This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements

4 *The remedy sought* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions

5 *All the matters to be contested* The Board will limit its consideration to those arguments specifically raised in the written notice of appeal

6 *Request for hearing* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing is requested and granted A request for public hearing on an appeal must be filed as part of the notice of appeal

7 *New or additional evidence to be offered* The Board may allow new or additional evidence as part of an appeal only when the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or show that the evidence itself is newly discovered and could not have been presented earlier in the process Specific requirements for additional evidence are found in Chapter 2, Section 24(B)(5)

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1 *Be familiar with all relevant material in the DEP record* A license file is public information made easily accessible by DEP Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials There is a charge for copies or copying services

2 *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal* DEP staff will provide this information on request and answer questions regarding applicable requirements

3 *The filing of an appeal does not operate as a stay to any decision* An applicant proceeding with a project pending the outcome of an appeal runs the risk of the decision being reversed or modified as a result of the appeal

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge initiation of the appeals procedure, including the name of the DEP project manager assigned to the specific appeal, within 15 days of receiving a timely filing The notice of appeal, all materials accepted by the Board Chair as additional evidence, and any materials submitted in response to the appeal will be sent to Board members along with a briefing and recommendation from DEP staff Parties filing appeals and interested persons are notified in advance of the final date set for Board consideration of an appeal or request for public hearing With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision The Board will notify parties to an appeal and interested persons of its decision

II. APPEALS TO MAINE SUPERIOR COURT

Maine law allows aggrieved persons to appeal final Commissioner licensing decisions to Maine's Superior Court, see 38 M R S A § 346(1), 06-096 CMR 2 26, 5 M R S A § 11001, & MRCivP 80C Parties to the licensing decision must file a petition for review within 30 days after receipt of notice of the Commissioner's written decision A petition for review by any other person aggrieved must be filed within 40-days from the date the written decision is rendered The laws cited in this paragraph and other legal procedures govern the contents and processing of a Superior Court appeal

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, contact the DEP's Director of Procedures and Enforcement at (207) 287-2811

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference Maine law governs an appellant's rights.