

Updated 07/22/08

FEDERAL PROJECT

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.

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 information:

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, executors, 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.

NOTICE

Disadvantaged Business Enterprise Proposed Utilization

The Apparent Low Bidder must submit the Disadvantaged Business Enterprise Proposed Utilization form by close of Business (4:30 P.M.) on Bid day.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form contains additional information that is required by USDOT.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form must be used.

A copy of the new Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan and instructions for completing it are attached.

Note: Questions about DBE firms, or to obtain a printed copy of the DBE Directory, contact the Civil Rights Office at (207) 624-3066.

MDOT's DBE Directory of Certified firms can also be obtained at www.maine.gov/mdot/disadvantaged-business-enterprises/dbe-home.php

INSTRUCTIONS FOR PREPARING THE CONTRACTOR'S DISADVANTAGED BUSINESS ENTERPRISE UTILIZATION PLAN

The Contractor Shall:

1. Submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan to the Contract's Engineer by 4:30 P.M. on the Bid day.
2. Extend equal opportunity to MDOT certified DBE firms (as listed in MDOT's DBE Directory of Certified Businesses) in the selection and utilization of Subcontractors and Suppliers.

SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

Insert Contractor name, the name of the person(s) preparing the form, and that person(s) telephone and fax number.

Provide total Bid price, Federal Project Identification Number, and location of the Project work.

In the columns, name each DBE firm to be used, provide the Unit or Item cost of the Work/Product to be provided by the DBE firm, give a brief description of the Work, and the dollar value of the Work.

If no DBE firm is to be utilized, the Contractor must document the reason(s) why no DBE firms are being used. Specific supporting evidence of good faith efforts taken by Contractors to solicit DBE Bidders must be attached. This evidence, as a minimum, includes phone logs, e-mail and/or mail DBE solicitation records, and the documented results of these solicitations.

NOTICE

Maine Department of Transportation Disadvantaged Business Enterprise Program

Notice is hereby given that in accordance with US DOT regulation 49 CFR Part 26, the Maine Department of Transportation has established a DBE Program for disadvantaged business participation in the federal-aid construction program; MaineDOT contracts covered by the program include consulting, construction, supplies, manufacturing, and service contracts.

For FFY 2008 (October 1, 2007 through September 30, 2008), MaineDOT has established a DBE participation goal of 4.5% to be achieved through race/gender neutral and race/gender conscious means.

Interested parties may view MaineDOT's DBE goal setting methodology for the next 30 days during normal business hours (8-4, M-F) at the Maine Department of Transportation, Civil Rights Office, 16 State House Station, Augusta ME 04333-0016. Appointments may be scheduled by telephone at (207) 624-3519. The goal setting methodology is also available for viewing on the MaineDOT website: <http://www.maine.gov/mdot/disadvantaged-business-enterprises/dbe-home.php>.

Public comment will be accepted for 45 days following the last date of publication. The public comment period will be complete on August 28th, 2007. The goal will be submitted for approval to the FHWA on August 1st, 2007 with an update based upon public comment sent to FHWA on August 30th.

Comments on the goal will be accepted for 45 days from the date of this notice. Written comments should be addressed to Jackie LaPerriere, Maine Department of Transportation, Civil Rights Office, 16 State House Station, Augusta, Maine 04333-0016 or by e-mail at: jackie.laperriere@maine.gov.

Several interested stakeholders will be notified directly by e-mail of the goal publication, including Maine SBA, Associated Constructors of Maine, and ACEC, and Maine DBEs.

**MaineDOT CONTRACTOR'S DBE/SUBCONTRACTOR
PROPOSED UTILIZATION FORM**

Low Bidder must furnish this form to Contracts Section Bid Opening day.

Contractor: _____ Telephone: _____ Ext. _____

Prepared by: _____ Fax: _____

BID PRICE: \$ _____ BID DATE: ____/____/____

FEDERAL PROJECT PIN # _____ PROJECT LOCATION: _____

TOTAL DBE _____ % PARTICIPATION FOR THIS SUBMISSION

| W B E• | D B E• | Non DBE | Firm Name | Unit/Item Cost | Unit # | Description of Work & Item Number | Actual \$ Value |
|-------------------|--------------|------------|-----------|----------------|--------|---|--------------------|
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| | | | | | | | |
| Total > | | | | | | | |

Contractors must make a good faith effort to include Certified DBE firms in all aspects of the project. If no DBE firms are to be part of this project, a detailed explanation is required. Attach supporting evidence to the maximum participation of DBEs on this project. This is a requirement. This evidence must include name of firm(s) contacted, date contacted, and outcome of solicitation.

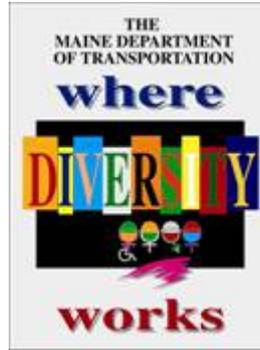
Equal Opportunity Use:

Form received: ____/____/____ Verified by: _____

____ Accepted ____ Rejected _____

cc: Contracts Other _____

- WBEs are non-minority women owned firms certified by MaineDOT
 - DBEs are male and minority owned firms certified by MaineDOT
- For a complete list of certified firms go to <http://www.maine.gov/mdot>



**Maine Department of Transportation
Civil Rights Office**

**Directory of Certified Disadvantaged
Business Enterprises**

Listing can be found at:

www.maine.gov/mdot/disadvantaged-business-enterprises/db-home.php

**For additional information and guidance
contact: Civil Rights Office at (207) 624-3066**

September 14, 2007

Vendor Registration

Prospective Bidders must register as a vendor with the Department of Administrative & Financial Services if the vendor is awarded a contract. Vendors will not be able to receive payment without first being registered. Vendors/Contractors will find information and register through the following link –

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

**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 "Bids for I-95 NB Bridge No. 5795 and I-95 SB Bridge No. 1428 Rehabilitation in the city of **BANGOR**" 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 November 12, 2008 and at that time and place publicly opened and read. Bids will be accepted from all bidders. The lowest responsive bidder must have completed, or successfully complete, a Bridge Project Prequalification, or project specific prequalification to be considered for the award of this contract. **We now 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. Until further notice, dual bids (one paper, one electronic) will be accepted, with the paper copy taking precedence.**

Description: Maine Federal Aid Project No. BH-1651(000) and BH-1651(100). PIN 0165100.00 and 016511.00.

Location: In Penobscot County, projects are located 1 mile south of route 2A at the industrial spur over Interstate 395.

Scope of Work: Interstate 95 northbound Bridge No. 5795 deck replacement, abutment rehabilitation, and other incidental work. Interstate 95 southbound Bridge No. 1428 deck replacement, abutment rehabilitation, structural steel replacement, and other incidental work.

For general information regarding Bidding and Contracting procedures, contact Scott Bickford at (207)624-3410. Our webpage at http://www.maine.gov/mdot/contractor-consultant-information/contractor_cons.php 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 **Project Manager Devin Anderson** at (207)624-3431. Questions received after 12:00 noon of Friday 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 888-516-9364.

Plans, specifications and bid forms may be seen at the Maine DOT Building in Augusta, Maine and at the Department of Transportation's Regional Office in Bangor. 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 \$14.00 (\$17.50 by mail). Half size plans \$7.00 (\$9.25 by mail), Bid Book \$10 (\$13 by mail), Single Sheets \$2, payment in advance, all non-refundable.

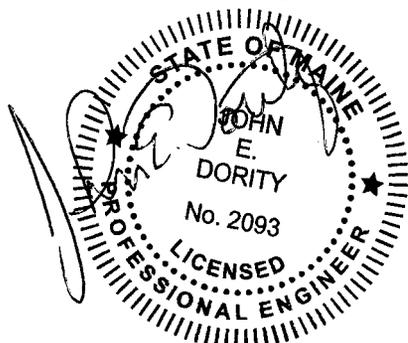
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of \$65,000.00 payable to Treasurer, State 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.maine.gov/mdot/contractor-consultant-information/contractor_cons.php

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

Augusta, Maine
October 22, 2008



JOHN E. DORITY
CHIEF ENGINEER

**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 |
|------------------|------|
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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: 016510.00

PROJECT(S): BH-1651(000)
BH-1651(100)

CONTRACTOR : _____

| LINE NO | ITEM DESCRIPTION | APPROX. QUANTITY AND UNITS | UNIT PRICE | | BID AMOUNT | |
|---------------------------|--|----------------------------|------------|-----|------------|-----|
| | | | DOLLARS | CTS | DOLLARS | CTS |
| SECTION 0001 BRIDGE ITEMS | | | | | | |
| 0010 | 107.51 PROSECUTION OF WORK - INITIAL SCHEDULE | LUMP | LUMP | | | |
| 0020 | 107.53 PROSECUTION OF WORK - BIWEEKLY UPDATES | EA 6.000 | | | | |
| 0030 | 202.10 REMOVING EXISTING SUPERSTRUCTURE (PROPERTY OF CONTRACTOR) | LUMP | LUMP | | | |
| 0040 | 203.20 COMMON EXCAVATION | CY 40.000 | | | | |
| 0050 | 203.24 COMMON BORROW | CY 20.000 | | | | |
| 0060 | 203.25 GRANULAR BORROW | CY 50.000 | | | | |
| 0070 | 206.082 STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES | CY 70.000 | | | | |
| 0080 | 304.10 AGGREGATE SUBBASE COURSE - GRAVEL | CY 40.000 | | | | |
| 0090 | 403.207 HOT MIX ASPHALT 19.0 MM HMA | T 120.000 | | | | |
| 0100 | 403.208 HOT MIX ASPHALT 12.5 MM HMA SURFACE | T 80.000 | | | | |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016510.00

PROJECT(S): BH-1651(000)
BH-1651(100)

CONTRACTOR : _____

| LINE NO | ITEM DESCRIPTION | APPROX. QUANTITY AND UNITS | UNIT PRICE | | BID AMOUNT | |
|---------|---|----------------------------|------------|-----|------------|-----|
| | | | DOLLARS | CTS | DOLLARS | CTS |
| 0110 | 403.213 HOT MIX ASPHALT 12.5 MM HMA BASE | 130.000 T | | | | |
| 0120 | 409.15 BITUMINOUS TACK COAT - APPLIED | 70.000 G | | | | |
| 0130 | 502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS | LUMP | LUMP | | | |
| 0140 | 502.26 STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLABS ON STEEL BRIDGES | LUMP | LUMP | | | |
| 0150 | 502.31 STRUCTURAL CONCRETE APPROACH SLABS | LUMP | LUMP | | | |
| 0160 | 503.12 REINFORCING STEEL, FABRICATED AND DELIVERED | 18400.000 LB | | | | |
| 0170 | 503.13 REINFORCING STEEL, PLACING | 18400.000 LB | | | | |
| 0180 | 504.701 STRUCTURAL STEEL FABRICATED AND DELIVERED, ROLLED | LUMP | LUMP | | | |
| 0190 | 504.71 STRUCTURAL STEEL ERECTION | LUMP | LUMP | | | |
| 0200 | 504.8101 REMOVAL OF STRUCTURAL STEEL | 10000.000 LB | | | | |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016510.00

PROJECT(S): BH-1651(000)
BH-1651(100)

CONTRACTOR : _____

| LINE NO | ITEM DESCRIPTION | APPROX. QUANTITY AND UNITS | UNIT PRICE | | BID AMOUNT | |
|---------|---|----------------------------|------------|-----|------------|-----|
| | | | DOLLARS | CTS | DOLLARS | CTS |
| 0210 | 505.08 SHEAR CONNECTORS | LUMP | LUMP | | | |
| 0220 | 506.9102 ZINC RICH COATING SYSTEM (SHOP APPLIED) | LUMP | LUMP | | | |
| 0230 | 514.06 CURING BOX FOR CONCRETE CYLINDERS | EA 1.000 | | | | |
| 0240 | 515.20 PROTECTIVE COATING FOR CONCRETE SURFACES | SY 2500.000 | | | | |
| 0250 | 518.52 REPAIR OF UPWARD FACING SURFACES > 7.9 IN. | CY 30.000 | | | | |
| 0260 | 518.61 REPAIR OF VERTICAL SURFACES > 7.9 IN. | CY 30.000 | | | | |
| 0270 | 520.22 EXPANSION DEVICE - COMPRESSION SEAL | EA 3.000 | | | | |
| 0280 | 520.222 EXPANSION DEVICE- COMPRESSION SEAL - INSTALL ONLY PIER "A") | LUMP | LUMP | | | |
| 0290 | 520.222 EXPANSION DEVICE- COMPRESSION SEAL - INSTALL ONLY PIER "B") | LUMP | LUMP | | | |
| 0300 | 520.222 EXPANSION DEVICE- COMPRESSION SEAL - INSTALL ONLY PIER "C") | LUMP | LUMP | | | |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016510.00

PROJECT(S): BH-1651(000)
BH-1651(100)

CONTRACTOR : _____

| LINE NO | ITEM DESCRIPTION | APPROX. QUANTITY AND UNITS | UNIT PRICE | | BID AMOUNT | |
|---------|--|----------------------------|------------|-----|------------|-----|
| | | | DOLLARS | CTS | DOLLARS | CTS |
| 0310 | 524.301 TEMPORARY STRUCTURAL SUPPORT | LUMP | LUMP | | | |
| 0320 | 524.40 PROTECTIVE SHIELD | LUMP | LUMP | | | |
| 0330 | 526.30 TEMPORARY CONCRETE BARRIER - TYPE 1 | 2400.000 LF | | | | |
| 0340 | 526.331 PERMANENT CONCRETE BARRIER TYPE III B | LUMP | LUMP | | | |
| 0350 | 526.40 RESETTING TEMPORARY CONCRETE BARRIER TYPE I | 2400.000 LF | | | | |
| 0360 | 527.34 WORK ZONE CRASH CUSHIONS | 6.000 UN | | | | |
| 0370 | 602.30 FLOWABLE CONCRETE FILL | 20.000 CY | | | | |
| 0380 | 606.1721 BRIDGE TRANSITION - TYPE 1 | 8.000 EA | | | | |
| 0390 | 606.24 GUARDRAIL TYPE 3D - SINGLE RAIL | 200.000 LF | | | | |
| 0400 | 607.421 SCREENING FENCE | 700.000 LF | | | | |
| 0410 | 609.11 VERTICAL CURB TYPE 1 | 220.000 LF | | | | |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016510.00

PROJECT(S): BH-1651(000)
BH-1651(100)

CONTRACTOR : _____

| LINE NO | ITEM DESCRIPTION | APPROX. QUANTITY AND UNITS | UNIT PRICE | | BID AMOUNT | |
|---------|---|----------------------------|------------|-----|------------|-----|
| | | | DOLLARS | CTS | DOLLARS | CTS |
| 0420 | 609.26 CURB TRANSITION SECTION B TYPE 1 | 8.000 EA | | | | |
| 0430 | 615.07 LOAM | 30.000 CY | | | | |
| 0440 | 618.1401 SEEDING METHOD NUMBER 2 - PLAN QUANTITY | 1.000 UN | | | | |
| 0450 | 619.12 MULCH | 1.000 UN | | | | |
| 0460 | 619.1401 EROSION CONTROL MIX | 60.000 CY | | | | |
| 0470 | 627.711 WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE (PLAN QUANTITY) | 2000.000 LF | | | | |
| 0480 | 627.76 TEMPORARY PVMT. MARK LINE, W OR YELLOW | LUMP | LUMP | | | |
| 0490 | 629.05 HAND LABOR, STRAIGHT TIME | 80.000 HR | | | | |
| 0500 | 631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR) | 40.000 HR | | | | |
| 0510 | 631.16 ROLLER, PAVEMENT (INCLUDING OPERATOR) | 40.000 HR | | | | |
| 0520 | 631.172 TRUCK - LARGE (INCLUDING OPERATOR) | 40.000 HR | | | | |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016510.00

PROJECT(S): BH-1651(000)
BH-1651(100)

CONTRACTOR : _____

| LINE NO | ITEM DESCRIPTION | APPROX. QUANTITY AND UNITS | UNIT PRICE | | BID AMOUNT | |
|---------|---|----------------------------|------------|-----|------------|-----|
| | | | DOLLARS | CTS | DOLLARS | CTS |
| 0530 | 631.211 PAVEMENT SWEEPER (INCLUDING OPERATOR) | 40.000 HR | | | | |
| 0540 | 631.212 SMALL PAVEMENT GRINDER (INCLUDING OPERATOR) | 40.000 HR | | | | |
| 0550 | 639.18 FIELD OFFICE TYPE A | 1.000 EA | | | | |
| 0560 | 652.30 FLASHING ARROW BOARD | 2.000 EA | | | | |
| 0570 | 652.35 CONSTRUCTION SIGNS | 1000.000 SF | | | | |
| 0580 | 652.38 FLAGGER | 400.000 HR | | | | |
| 0590 | 652.381 TRAFFIC OFFICERS | 400.000 HR | | | | |
| 0600 | 652.39 WORK ZONE TRAFFIC CONTROL | LUMP | LUMP | | | |
| 0610 | 652.41 PORTABLE - CHANGEABLE MESSAGE SIGN | 4.000 EA | | | | |
| 0620 | 656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL | LUMP | LUMP | | | |
| 0630 | 659.10 MOBILIZATION | LUMP | LUMP | | | |
| | SECTION 0001 TOTAL | | | | | |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016510.00

PROJECT(S): BH-1651(000)
BH-1651(100)

CONTRACTOR : _____

| LINE NO | ITEM DESCRIPTION | APPROX. QUANTITY AND UNITS | UNIT PRICE | | BID AMOUNT | |
|------------|---------------------|----------------------------------|------------|-----|------------|-----|
| | | | DOLLARS | CTS | DOLLARS | CTS |
| ----- | | | | | | |
| | 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 **016510.00 and 016511.00**, for the **Interstate 95 Northbound Bridge No. 5795 and Interstate 95 Southbound Bridge No. 1428 Rehabilitation** in the city of **Bangor**, County of **Penobscot**, 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 **August 30, 2009**. 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 0165100.00 Bangor, Bridge No. 5795 Rehabilitation, and PIN 016511.00 Bangor Bridge No. 1428 Rehabilitation**, 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: 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

Date

(Signature of Legally Authorized Representative
of the Contractor)

Witness

(Name and Title Printed)

G. Award.

Your offer is hereby accepted.
documents referenced herein.

This award consummates the Contract, and the

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 **016510.00 and 016511.00**, for the **Interstate 95 Northbound Bridge No. 5795 and Interstate 95 Southbound Bridge No. 1428 Rehabilitation** in the city of **Bangor**, County of **Penobscot**, 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 **August 30, 2009**. 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 0165100.00 Bangor, Bridge No. 5795 Rehabilitation, and PIN 016511.00 Bangor Bridge No. 1428 Rehabilitation**, 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: 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

Date

(Signature of Legally Authorized Representative
of the Contractor)

Witness

(Name and Title Printed)

G. Award.

Your offer is hereby accepted.
documents referenced herein.

This award consummates the Contract, and the

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)
(Signature of Legally Authorized Representative of the Contractor)

(Print Name Here)
(Name and Title Printed)

(Witness Sign Here)
Witness

Date

G. Award.

Your offer is hereby accepted. documents referenced herein.

This award consummates the Contract, and the

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

.....

SPECIAL PROVISION 105
CONSTRUCTION AREA

A Construction Area located in the **City of Bangor** has been established by the Maine Department of Transportation (MDOT) in accordance with provisions of 29-A § 2382 Maine Revised Statutes Annotated (MRSA).

- (a) The section of highway under construction located on Interstate 95 northbound bridge No. 5795 and Interstate 95 southbound bridge no. 1428 over Interstate 395 approximately 1 mile south of route 2A.
- (b) (Interstate 95) northbound bridge no. 5795 and southbound bridge no. 1428 approximately 25'-0" preceding abutment no.1 to abutment no.2 and beyond approximately 25'-0".

Per 29-A § 2382 (7) MRSA, the MDOT may “*issue permits for stated periods of time for loads and equipment employed on public way construction projects, United States Government projects or construction of private ways, when within construction areas established by the Department of Transportation. The permit:*

- A. Must be procured from the municipal officers for a construction area within that municipality;*
- B. May require the contractor to be responsible for damage to ways used in the construction areas and may provide for:*
 - (1) Withholding by the agency contracting the work of final payment under contract; or*
 - (2) The furnishing of a bond by the contractor to guarantee suitable repair or payment of damages.*

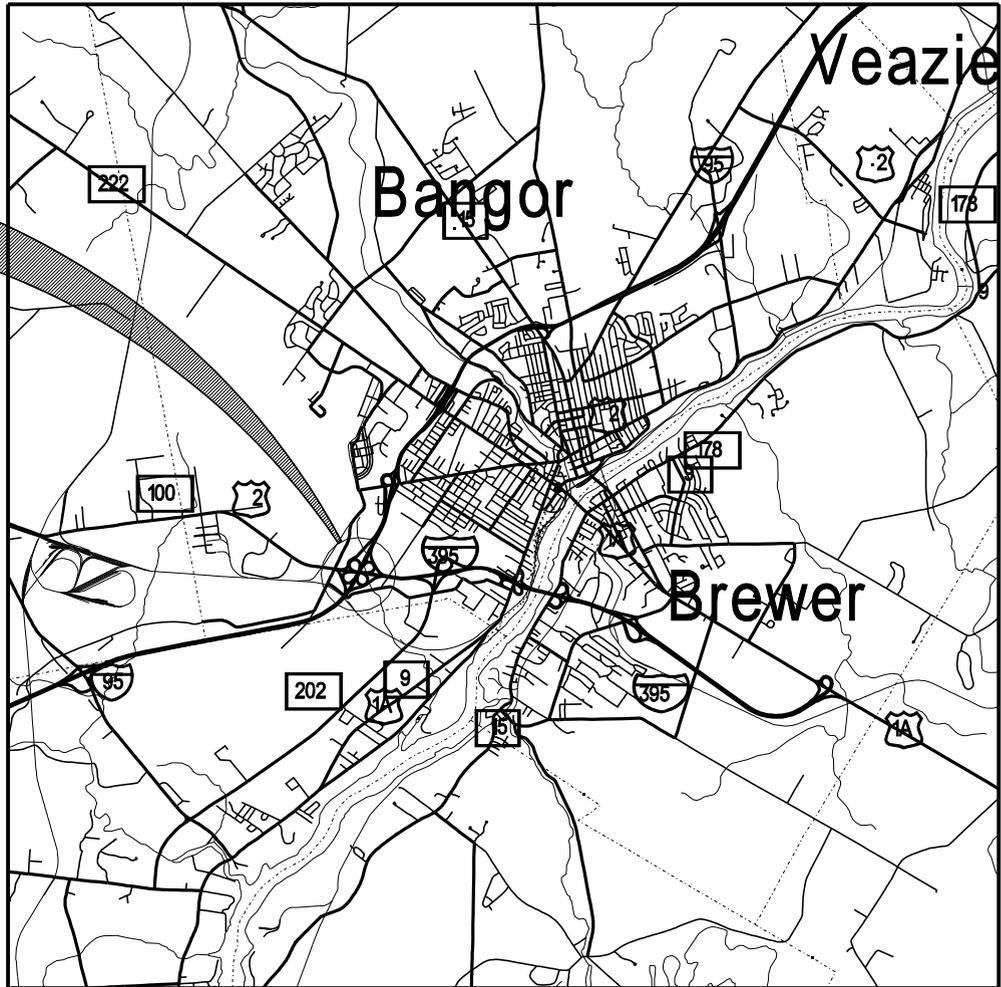
The suitability of repairs or the amount of damage is to be determined by the Department of Transportation on state-maintained ways and bridges, otherwise by the municipal officers;
- C. May be granted by the Department of Transportation or by the state engineer in charge of the construction contract; and*
- D. For construction areas, carries no fee and does not come within the scope of this section.”*

The Municipal Officers for the **City of Bangor** agreed that an Overlimit Permit will be issued to the Contractor for the purpose of using loads and equipment on municipal ways in excess of the limits as specified in 29-A MRSA, on the municipal ways as described in the “Construction Area”.

As noted above, a bond may be required by the municipality, the exact amount of said bond to be determined prior to use of any municipal way. The MDOT will assist in determining the bond amount if requested by the municipality.

The maximum speed limits for trucks on any town way will be 25 mph (40 km per hour) unless a higher legal limit is specifically agreed upon in writing by the Municipal Officers concerned.

PROJECT



LOCATION MAP

General Decision Number: ME080010 06/06/2008 ME10

Superseded General Decision Number: ME20070010

State: Maine

Construction Type: Highway

County: Penobscot County in Maine.

HIGHWAY CONSTRUCTION PROJECTS excluding major bridging (for example: bascule, suspension and spandrel arch bridges; those bridging waters presently navigating or to be navigable; and those involving marine construction in any degree); tunnels, building structures in rest area projects and railroad construction.

| Modification Number | Publication Date |
|---------------------|------------------|
| 0 | 02/08/2008 |
| 1 | 06/06/2008 |

* ENGI0004-011 04/01/2008

| | Rates | Fringes |
|----------------------------|----------|---------|
| Power equipment operators: | | |
| Grader..... | \$ 18.22 | 8.50 |
| Paver..... | \$ 18.22 | 8.50 |
| Roller..... | \$ 18.22 | 8.50 |

* SUME2000-009 10/24/2000

| | Rates | Fringes |
|----------------------------|----------|---------|
| CARPENTER | | |
| Including Form Work..... | \$ 11.19 | 1.72 |
| Cement Mason/Finisher..... | \$ 9.13 | |
| Ironworkers: | | |
| Structural..... | \$ 17.50 | 1.70 |
| Laborers: | | |
| Landscape..... | \$ 7.84 | |
| Rakers..... | \$ 10.18 | 2.14 |
| Unskilled..... | \$ 8.73 | 1.71 |
| Power equipment operators: | | |
| Backhoes..... | \$ 11.81 | 1.88 |
| Bulldozers..... | \$ 13.12 | 2.72 |
| Cranes..... | \$ 15.25 | 1.70 |
| Excavators..... | \$ 11.69 | 2.40 |
| Loaders..... | \$ 12.21 | 3.19 |
| Truck drivers: | | |
| Dump..... | \$ 9.27 | |

| | | |
|---------------|----------|------|
| Tri Axle..... | \$ 10.63 | 2.11 |
| Two Axle..... | \$ 9.12 | 1.63 |

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.
=====

Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates
listed under the identifier do not reflect collectively
bargained wage and fringe benefit rates. Other designations
indicate unions whose rates have been determined to be
prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can
be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on
a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests
for summaries of surveys, should be with the Wage and Hour
Regional Office for the area in which the survey was conducted
because those Regional Offices have responsibility for the
Davis-Bacon survey program. If the response from this initial
contact is not satisfactory, then the process described in 2.)
and 3.) should be followed.

With regard to any other matter not yet ripe for the formal
process described here, initial contact should be with the
Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an
interested party (those affected by the action) can request
review and reconsideration from the Wage and Hour Administrator
(See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

SPECIAL PROVISION
SECTION 101.2.1
SUPPLEMENTAL DEFINITIONS

Definitions. The following definitions are added to Section 101.2 Definitions.

B Portion of the Work That portion of the Physical Work which obstructs, blocks, or restricts in any way the Traveled Way or Lanes on I95. The B Portion of the Work begins with the first obstruction, blockage or Lane restriction and continues until the B Portion is Physically Complete as determined by the MDOT Resident Engineer. Once begun, the "B" portion of the work shall be continuous until complete.

The following will not count toward the "B" portion:

Abutment, Backwall, New Structural steel painting and Installation and removal of signage and portable change message boards at night between 10 pm and 5 am using a single lane closure on I-95 before and after the lane closure.

Contract Segment All or a specifically identified portion of a project in the contract documents. Examples are a bridge, a roadway segment, an interchange or the entire project.

Daily Road User Cost The amount which represents the average daily cost of interference and inconvenience to the road user caused by complete bridge closure, complete or partial lane closure, obstruction or other construction activity related delay. The Daily Road User Cost for purposes of bid analysis and Award determination shall be \$10,000 per Calendar Day.

Hour Any continuous 60-minute period or portion of a continuous 60-minute period.

Lane A strip of Roadway intended to accommodate a single line of vehicles, including the adjacent shoulder.

Obstruction When the Contractor's operations have resulted in the useable Lane width of the Traveled Way or ramp to be less than that specified in the plan documents or result in the roadway or Lane being unusable by the public. Shoulder shall be considered part of the useable lane width.

Bangor
BH-1651(000)
BH-1651(100)
September, 2008

Physical Completion The point at which the Physical Work is complete such that it can be safely and effectively used by the public without further delays, disruptions, or impediments. For the conventional bridge and highway work, this includes but is not limited to the point at which all bridge deck, parapet, permanent wearing surface, pavement structure, expansion joint installation, joint seal installation, protective coating installation, permanent signing and pavement markings, traffic barrier and safety appurtenance work are complete. The Department shall be the sole authority in determining when the work is physically complete.

SPECIAL PROVISION
SECTION 102.11.1

SUPPLEMENT TO NON-CURABLE BID DEFECTS

Non-Curable Defects. The following is added to the conditions listed in the Standard Specifications Section 102.11.1 (non-curable defects) which will cause the bid to be non-responsive.

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

SPECIAL PROVISION
SECTION 102.12

ADDITIONAL BIDDING REQUIREMENTS AND CONTRACT CONDITIONS

The process for bidding will take into account not only the contract amount bid, but also the bidder's stated delivery time in which the project will be complete. This method shall only be used to determine the successful bidder. It shall not be used to determine the award amount or final payment to the Contractor when the project is completed.

Preparation of Bid. The bidder shall establish the number of calendar days or portions thereof that it will require to complete the B portion of the work. This number of calendar days shall be legibly written in ink in the place provided in the bid forms. Round up to the next whole calendar day. Example: Obstruction for 0.1 calendar days per day for 10 calendar days, equals 10 calendar days of obstruction, and does not equal 1 calendar day of obstruction.

The product of the number of Calendar Days set by the Bidder multiplied by the daily road user cost of \$10,000 per calendar day shall be added to the amount bid.

Consideration of Bids. Each bid submitted shall consist of two parts:

- (A) The bid amount to complete the work.
- (B) Total number of Calendar Days or portions thereof set by the bidder that it will require to complete the B portion of the Work. The number of Calendar Days shall be rounded up to the next nearest whole Calendar Day.

The apparent low bid will be determined by the Department as the lowest combination of (A) plus (B) according to the following formula:

$$(A) + [(B) \times (\text{Daily Road User Cost})] = \text{Bid amount for award consideration}$$

Where A is the total cost to complete the work and B is the number of Calendar Days to complete the B portion of the work. The Daily Road User Cost for purposes of bid analysis and Award determination shall be \$10,000 per Calendar Day.

Bangor
BH-1651(000)
BH-1651(100)
September, 2008

The preceding formula shall be used to determine the apparent low bidder and shall not be used to determine the contract award amount nor final payment to the Contractor when the project is completed. Only the price bid (the "A" portion of the bid) shall be used to determine final payment to the Contractor, except as provided elsewhere in the contract.

The Contractor shall provide advance notification to the Resident a minimum of 72 hours prior to the anticipated Lane closures or Obstructions.

The number of Calendar Days bid govern if discrepancies exist between the number of Calendar Days bid and the calculation of $(B \times (\text{Road User Cost}))$ for the A+B bid comparison.

The Contractor shall be allowed to work 24 hours per day except as noted in Special Provision Section 107 Limitation of Operations. The Contractor shall also be allowed to work Saturdays, Sundays and Holidays. The Contractor must provide the Resident with 96 hours advance notification when the Contractor plans to begin night work operation.

Town: **Bangor**
Project: **BH-1651(000)E, 16510.00**
BH-1651(100)E, 16511.00
Date: **September 24, 2008**

SPECIAL PROVISIONS
SECTION 104
Utilities

MEETING

A Preconstruction Utility Conference, as defined in Subsection 104.4.6 of the Standard Specifications is not required unless requested.

GENERAL INFORMATION

These Special Provisions outline the arrangements that have been made by the Department for utility and/or railroad work to be undertaken in conjunction with this project. The following list identifies all known utilities or railroads having facilities presently located within the limits of this project or intending to install facilities during project construction.

The approximate locations of major items of existing and proposed (permanent and temporary) utility plan are shown on the highway construction plans.

All utility crossings over highways will provide not less than 20 feet vertical clearance over existing ground in cut or over finished grade in fill, during construction of this project.

Unless otherwise provided, utilities will not be required to make underground installations in frozen ground.

Any times and dates mentioned are estimates only and are dependent upon favorable weather, working conditions and freedom from emergencies. The Contractors shall have no claim against the Department if they are exceeded.

Utility working days are Monday through Friday conditions permitting. Times are estimated on the basis of a single crew for each utility.

In all cases, the utilities shall be advised well in advance (generally three weeks) before work, dependent upon other work to be done by the Contractor, in any particular area, is to be commenced by them.

AERIAL

None

UNDERGROUND

Town: **Bangor**
Project: **BH-1651(000)E, 16510.00**
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Date: **September 24, 2008**

MaineDOT has existing interstate ramp lighting located on I-95. The lighting is feed through a buried electrical conduit and the Contractor is responsible to keep the facility operational at all times during construction. Existing lighting plans will be made available upon request.

BLASTING

In addition to any other notice which may be required, the Contractor shall notify an authorized representative of each utility that have plant close to the site not later than 3:00 p.m. on the working day (Monday through Friday) before the Contractor intends to blast. Notice shall state the approximate time of the blast.

UTILITY SPECIFIC ISSUES

Any tree removal or tree trimming required within ten feet of electrical conductors must be done by a qualified contractor. A list of tree removal contractors qualified to remove trees or limbs within ten feet of the electrical conductors may be obtained from the power company.

DIG SAFE

The contractor will be responsible for determining the presence of underground utility facilities prior to commencing any excavation work and shall notify utilities of proposed excavation in accordance with **M.R.S.A. Title 23 §3360-A, Maine “Dig Safe” System. Call 1-888-344-7233.**

SAFE PRACTICES AROUND UTILITY FACILITIES

The Contractor shall be responsible for complying with M.R.S.A. Title 35-A, Chapter 7-A-Sections 751–761 Overhead High-Voltage Line Safety Act. Prior to commencing any work that may come within ten (10) feet of any aerial electrical line; the Contractor shall notify the aerial utilities as per Section 757 of the above act.

THE CONTRACTOR SHALL PLAN AND CONDUCT HIS WORK ACCORDINGLY.

SPECIAL PROVISION
SECTION 104
GENERAL RIGHTS & RESPONSIBILITIES
(Bridge Closure Notification)

Section 104, General Rights and Responsibilities, of the Standard Specifications is amended as follows:

104.4.10 Coordination of Bridge Closure/Bridge Width Restriction Notification:
Paragraphs 4 and 5 are revised to read as follows:

The Contractor shall notify the following public officials, agencies and organizations approximately thirty days prior to, and then again both ten days before and the day before, of the date of the beginning of the closure. The thirty day notice should provide an approximate date and length of closure whereas the ten and one day notices should provide the exact date and the anticipated length of the closure. When the bridge is reopened to traffic, the following list will again be notified. The Contractor shall provide the Department with documentation that the listed public officials, agencies and organizations received the notification at least 20 days prior to the closure/restriction or with proof that the notification was mailed 30 days prior to the closure/restriction.

- Town Officials (Manager or First Selectperson)
- County Sheriff's Department
- Fire Department
- Police Department
- State Police
- Rescue Service
- School Department
- Post Office
- Chamber of Commerce
- Any Large Employers
- MDOT Maintenance Regional Office (764-2060)
- Department of Motor Vehicles – Commercial Vehicle Center (626-8630)

All newspaper notices, radio announcements and any notifications will be subject to the approval of the Engineer and all costs will be considered incidental to the Contract.

Under Section 104.4.10 Coordination of Bridge Closure/Bridge Width Restriction Notification, and the following:

A minimum of twenty days prior to the closure the Contractor shall provide notification to motorists (in both travel directions) using portable message sign(s), in accordance with Section 652 of the Standard Specifications.

SPECIAL PROVISION
SECTION 105
CONTROL OF WORK

(Cooperation Between Contractors- -Periodic Progress Coordination Meeting)

It is hereby brought to the Contractor's attention that the Department has awarded and plans to award other contracts near the limits of this contract, which may be in progress simultaneously.

The Contractor shall attend periodic meetings for the projects in the greater Bangor area. The projects in the Bangor may include the following project(s):

- Bangor, Hammond Street Bridge #5794 (Hammond Street over I 95) PIN 12643.00
- Hampden, Cold Brook Road Bridge # 5970 (Cold Brook Road over I 95)

The periodic meetings will be held in the Bangor area. The intent of these meetings is to insure the traffic control measures for the different projects are well coordinated and incidents are coordinated between the above referenced projects in accordance with incident management plan/emergency plan that is being developed for the projects.

The Contractor shall cooperate with other Contractors at all times and provide project access as necessary and as directed by the Resident.

SPECIAL PROVISION 105
OVERLIMIT PERMITS

Title 29-A § 2382 MRSA Overlimit Movement Permits.

1. Overlimit movement permits issued by State. The Secretary of State, acting under guidelines and advice of the Commissioner of Transportation, may grant permits to move nondivisible objects having a length, width, height or weight greater than specified in this Title over a way or bridge maintained by the Department of Transportation

2. Permit fee. The Secretary of State, with the advice of the Commissioner of Transportation, may set the fee for single trip permits, at not less than \$6, nor more than \$30, based on weight, height, length and width. The Secretary of State may, by rule, implement fees that have been set by the Commissioner of Transportation for multiple trip, long-term overweight movement permits. Rules established pursuant to this section are routine technical rules pursuant to Title 5, chapter 375, subchapter II-A.

3. County and municipal permits. A county commissioner or municipal officer may grant a permit, for a reasonable fee, for travel over a way or bridge maintained by that county or municipality

4. Permits for weight. A vehicle granted a permit for excess weight must first be registered for the maximum gross vehicle weight allowed for that vehicle.

5. Special mobile equipment. The Secretary of State may grant a permit, for no more than one year, to move pneumatic-tire equipment under its own power, including Class A and Class B special mobile equipment, over ways and bridges maintained by the Department of Transportation. The fee for that permit is \$15 for each 30-day period.

6. Scope of permit. A permit is limited to the particular vehicle or object to be moved, the trailer or semitrailer hauling the overlimit object and particular ways and bridges.

7. Construction permits. A permit for a stated period of time may be issued for loads and equipment employed on public way construction projects, United States Government projects or construction of private ways, when within construction areas established by the Department of Transportation. The permit:

A. Must be procured from the municipal officers for a construction area within that municipality;

B. May require the contractor to be responsible for damage to ways used in the construction areas and may provide for:

(1) Withholding by the agency contracting the work of final payment under contract; or

(2) The furnishing of a bond by the contractor to guarantee suitable repair or payment of damages.

The suitability of repairs or the amount of damage is to be determined by the Department of Transportation on state-maintained ways and bridges, otherwise by the municipal officers;

C. May be granted by the Department of Transportation or by the state engineer in charge of the construction contract; and

D. For construction areas, carries no fee and does not come within the scope of this section.

8. Gross vehicle weight permits. The following may grant permits to operate a vehicle having a gross vehicle weight exceeding the prescribed limit:

A. The Secretary of State, with the consent of the Department of Transportation, for state and state aid highways and bridges within city or compact village limits;

B. Municipal officers, for all other ways and bridges within that city and compact village limits; and

C. The county commissioners, for county roads and bridges located in unorganized territory.

9. Pilot vehicles. The following restrictions apply to pilot vehicles.

A. Pilot vehicles required by a permit must be equipped with warning lights and signs as required by the Secretary of State with the advice of the Department of Transportation.

B. Warning lights may be operated and lettering on the signs may be visible on a pilot vehicle only while it is escorting a vehicle with a permit on a public way.

With the advice of the Commissioner of Transportation and the Chief of the State Police, the Secretary of State shall establish rules for the operation of pilot vehicles.

9-A. Police escort. A person may not operate a single vehicle or a combination of vehicles of 125 feet or more in length or 16 feet or more in width on a public way unless the vehicle or combination of vehicles is accompanied by a police escort. The Secretary of State, with the advice of the Commissioner of Transportation, may require a police escort for vehicles of lesser dimensions.

A. The Bureau of State Police shall establish a fee for state police escorts to defray the costs of providing a police escort. A county sheriff or municipal police department may establish a fee to defray the costs of providing police escorts.

B. The Bureau of State Police shall provide a police escort if a request is made by a permittee. A county sheriff or municipal police department may refuse a permittee's request for a police escort.

C. A vehicle or combination of vehicles for which a police escort is required must be accompanied by a state police escort when operating on the interstate highway system.

10. Taxes paid. A permit for a mobile home may not be granted unless the applicant provides reasonable assurance that all property taxes, sewage disposal charges and drain and sewer assessments applicable to the mobile home, including those for the current tax year, have been paid or that the mobile home is exempt from those taxes. A municipality may waive the requirement that those taxes be paid before the issuance of a permit if the mobile home is to be moved from one location in the municipality to another location in the same municipality for purposes not related to the sale of the mobile home.

11. Violation. A person who moves an object over the public way in violation of this section commits a traffic infraction.

Section History:

PL 1993, Ch. 683, §A2 (NEW).

PL 1993, Ch. 683, §B5 (AFF).

PL 1997, Ch. 144, §1,2 (AMD).

PL 1999, Ch. 117, §2 (AMD).

PL 1999, Ch. 125, §1 (AMD).

PL 1999, Ch. 580, §13 (AMD).

PL 2001, Ch. 671, §30 (AMD).

PL 2003, Ch. 166, §13 (AMD).

PL 2003, Ch. 452, §Q73,74 (AMD).

PL 2003, Ch. 452, §X2 (AFF).

SPECIAL PROVISION
SECTION 106
QUALITY
(Quality Level Analysis- Structural Concrete)

The first formula under Item H under Subsection 106.7.1, Standard Deviation Method, of the 2002 Revision of the Standard Specifications is deleted and replaced with the following. This formula shall apply to structural concrete, only:

Method A: $PF = [32.5 + (\text{Quality Level} * 0.75)] * 0.01$

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SPECIAL PROVISION
SECTION 107
PROSECUTION AND PROGRESS
(Contract Time)

The specified contract completion date is August 30, 2009.

SPECIAL PROVISION
SECTION 107
TIME

(Supplemental Liquidated Damages for Fabrication Time)

107.8.1 Fabrication Time.

The Department has budgeted for the following amounts of continuous full time fabrication/shop inspection for certain Work components:

| <u>Element</u> | <u>Time</u> | <u>Supplemental LD</u> |
|---------------------------------|------------------|------------------------|
| 1) Precast Concrete Deck Panels | 28 calendar days | \$500 per calendar day |
| 2) Steel Fabrication | 14 calendar days | \$500 per calendar day |

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

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

Inspection is required for the following activities:

For metal fabrication work - welding, including tack welding, heat correcting, non-destructive examination, assembly verification, protective coating application.

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

SPECIAL PROVISION
SECTION 107
TIME
(Schedule of Work)

Description - The Contractor shall submit to the Resident a schedule of work for approval. The schedule of work shall be used to monitor the sequence of construction operations and the progress of work.

The Schedule of Work shall be in the form specified herein.

Critical Path Method Schedule - The construction of this project shall be planned and recorded with a Critical Path Method (CPM) schedule in the form of an activity on node (AON) diagram. The schedule shall be used for coordinating and monitoring all work under the contract including the activity of subcontractors, vendors, and suppliers.

Preparation of Bid Schedule - Each bidder shall submit with the bid a schedule of the work to indicate the scheduled dates or completion of major components of the project. It shall include approval, fabrication, and delivery precedent to the performance of the major components of the project. The schedule must demonstrate the apparent low bidder's understanding of the project and ability to:

1. Complete the B Portion of the work by 6:00 am June 30, 2009.
2. Complete all of the work by the contract completion date.

Four paper copies of this schedule shall be provided with the bid.

The critical path of the B portion of the work must be highlighted (See Special Provision 101.2.1 for the definition of the B portion of the work), as this work is directly tied to an incentive/disincentive provision.

Preparation of Initial Schedule - Within 10 calendar days of bid opening, the apparent low bidder shall submit for the Resident's approval an electronic version of the detailed CPM schedule. The schedule shall meet the requirements set forth herein. The electronic version shall be done with Primavera Project Planner software or approved equivalent. If an approved equivalent is used, the apparent low bidder shall be responsible for providing

the Department a properly licensed copy of the software to allow the Department to view the electronic schedule.

Within 10 calendar days of the apparent low bidder's schedule submittal, the Resident will review the schedule and provide the apparent low bidder in writing, any corrections needed to approve the schedule. The apparent low bidder must make all corrections and resolve all comments within 10 calendar days of written notice of required schedule corrections.

The approval of the schedule by the Resident in no way attests to the validity of the assumptions, logic constraints, dependency relationships, resource allocations, manpower and equipment, or any other aspect of the proposed schedule. Once the apparent low bidder becomes the Contractor, (i.e. upon contract award) the Contractor is and shall remain solely responsible for the planning and execution of work in order to meet project milestones or contract completion dates.

The construction time for the entire project, or any milestone, shall not exceed the specified contract time. Logic or activity durations will be revised in the event that any milestone or contract completion date is exceeded in the schedule.

In the event an apparent low bidder submits a bid with a scheduled contract completion date which occurs earlier than the estimated Departmental Contract Completion Date given in the bid documents, that apparent low bidder's completion date becomes the new contract completion date. The Contractor shall be liable for liquidated damages for work completed after this new contract completion date. However, the completion milestone for the B Portion of the work shall be subject to the incentives and disincentives described in Special Provision 108.9.4, regardless of the completion date of the overall contract.

In the event that a Contractor submits a schedule with a completion time before the contract completion date, the Contractor agrees that the Department will not be liable for any compensable delay claims related to the period between the Contractor's scheduled completion time and the contract completion time unless the Contractor can demonstrate that (a) the early completion time was anticipated by the Contractor during bid preparation and is reflected in the bid, (b) the early completion schedule is reasonable, (c) the Contractor consistently utilized the early completion schedule to schedule, coordinate and manage the work including monitoring progress, (d) the cause(s) of the delay(s) were solely attributable to the Department, (e) the delays incurred impacted the critical path, (f) the Contractor did not cause any concurrent delays to the critical path, and (g) the Contractor was not able to perform other critical path work during the delay period.

Schedule Requirements:

1. Activity Information: All activity on node diagrams shall include:
 - a. Activity ID
 - b. Activity Description
 - c. Finish to Start relationships with no leads or lags

2. Duration (Working Days): No activity will have duration greater than 15 working days or less than one working day. Activity durations expressed in hours will not be allowed unless approved by the Resident. If requested by the Resident, either the apparent low bidder or the Contractor shall furnish any information needed to justify the reasonableness of activity time durations. Such information shall include, but not be limited to, estimated activity manpower, unit quantities, and production rates.

3. Procurement and Submittals: Separate procurement into at least two activities, fabrication and delivery. When the procurement also requires a submittal to and approval by the Department, insure these separate activities are shown in the schedule logic. Insure all work activities that require a submittal are preceded by submittal and approval activities.

4. Constraints: Use only contractual constraints in the schedule logic. No other constraints are allowed unless approved by the Resident. The disallowance of constraints includes the use of activity mandatory start and finish dates.

5. Float: Float is defined as the amount of time between when an activity "can start" (the early start) and when an activity "must start" (the late start). It is understood by the Department and the Contractor that float is a shared commodity, not for the exclusive use of financial benefit of either party. Either party has the full use of the float until it is depleted.

6. Activity Codes: Activities shall be identified by codes to reflect the following information related to an activity:

Responsible party for the accomplishment of each activity (only one party can be responsible for an activity).

Phase/stage as required by the maintenance and protection of traffic plan and/or the Special Provisions.

Area/Location

7. Computer Compatibility: The CPM schedule must be processed through a computer and be compatible with Primavera Project Planner software, version 3.1 or later, by Primavera Systems Inc., Bala Cynwynd, PA. It is the apparent low bidder's or Contractor's (as applicable) responsibility to ascertain the software compatibility with the Resident.

Initial Schedule Submittal Requirements:

1. Predecessor/Successor Sort
2. Total Float/Early Start Sort
3. Responsibility/Early Start Sort
4. Area/Early Start Sort
5. Logic Diagram: produce diagram with not greater than 100 activities per ANSI D (24-inch x 36-inch) size sheet. Insure each sheet includes title, match data or diagram correlation, and key to identify all components used in the diagram.
6. Narrative discussing general approach to completion of the work.

Schedule Updates - The Contractor shall update the schedule monthly to show current progress when the Bridge is open to traffic. When the Bridge is closed to traffic during the B portion of the work, schedules shall be updated weekly. The data date for the update shall be determined by the Resident. The schedule update shall be submitted within seven calendar days of the data date. The Resident may require submission of the updated schedule on diskette prior to submission of the full update package. Should the Contractor fail to provide an update, the Department may withhold payment of the current monthly progress estimate until the monthly schedule update is submitted. The update will include:

1. Dates of activities' actual start and completion.
2. The percent of work remaining for activities started, but not complete as of the update date.
3. Narrative report including a listing of monthly progress, the activities that define the critical path and any changes to the path of critical activities from the previous update, sources of delay, any potential problems, requested logic changes, and work planned for the next month.

4. Predecessor/Successor Sort
5. Total Float/Early Start Sort
6. Responsibility/Early Start Sort
7. Area/Early Start Sort
8. Diskette in Primavera (P3) format
9. Fragnet of logic diagram for all requested logic changes
10. Updated logic diagram as required by the Resident. At a minimum, the Department shall require a final logic diagram at the end of the project showing the planned and actual starts and completions.
11. A bar chart comparison of the updated schedule to the initial schedule. This diagram shall show actual and planned performance dates for all completed activities.

Schedule Revisions - The Contractor will revise the schedule for the following: a delay in completion of the project or contractual milestones or actual prosecution of the work which is, as determined by the Resident, significantly different than that represented on the schedule: Schedule revisions will be considered incidental to Pay Item 107.53.

Revisions to the work which impact the critical path of the B portion of the work, must be highlighted.

Recovery Schedule - If the initial schedule or current updates fail to reflect the project's actual plan or method of operation, or the B Portion is more than 5 calendar days behind, the Department may require that a recovery schedule for completion of the remaining contract work be submitted. The recovery Schedule must be submitted within seven calendar days of the Department's request. The Recovery Schedule shall describe in detail the Contractor's plan to complete the remaining contract work by the contract milestone date. The Recovery Schedule submittal shall meet the same schedule requirements as the Initial Schedule. The narrative submitted with the Recovery Schedule should describe in detail all changes that have been made to meet the contract milestone date.

Contract Modifications - When a contract modification is proposed, the Contractor must identify all logic changes required as a result of the contract modification. The Contractor shall include, as part of each proposed contract modification, a sketch showing all schedule logic revisions, duration changes,

and the relationships to other activities in the approved Initial Schedule. This sketch shall be known as the fragment for the change. Upon acceptance of the fragment, the Contractor will revise the Initial CPM Schedule or current update. The logic change work required by the change order will be considered incidental to the contract work. No separate payment will be made.

Schedule Revisions to Utility Work - The Contractor shall provide the utilities ten days notice when revisions in the schedule of work affect operations of a utility unless previous arrangements have been made with the utility company involved.

Method of Measurement - Schedule of work will be measured for payment as one lump sum for the initial schedule and payments for each biweekly update.

Basis of Payment - Schedule of work will be paid for at the contract lump sum price. Upon approval of the initial schedule, the contract lump sum price for the initial schedule will be paid. Thereafter, biweekly schedule updates will be paid for at the contract unit price each. Biweekly schedule updates will be paid for at the contract unit price each during the B portion of the work only.

Payment will be made under:

| <u>Pay Item</u> | <u>Pay Unit</u> |
|---|-----------------|
| 107.51 Prosecution of Work - Initial Schedule | Lump Sum |
| 107.53 Prosecution of Work - Biweekly Update | Each |

SPECIAL PROVISION SECTION 107.6

INCENTIVE/DISINCENTIVE FOR EARLY OR LATE COMPLETION FOR THE “B PORTION” OF THE WORK

Beginning of “B Portion” Time Period. The “B Portion” time period will begin at either 5:00 am Sunday March 29, 2009 or the date on which the Contractor commences the physical on-site work per written notice to proceed, whichever is earlier.

Early Opening of Project to Unrestricted Highway Traffic. The Contractor will be paid \$10,000 Incentive for each Calendar Day the “B Portion” is complete before the number of Calendar Days stated by the Contractor in its Bid.

Failure to complete the “B Portion” within the time Bid. Failure to complete the project within the established number of Calendar Days set by the Contractor in its Bid will result in a Daily Road User Cost (disincentive) of **\$10,000 per day** being assessed for every Calendar Day in excess of the stated number, up to the time in which the B Portion is complete, except that if Completion of The Physical Work for the B Portion is not accomplished by midnight **July 2, 2009** the Daily Road User Cost becomes **\$25,000 per day**.

This assessment of Daily Road User Costs will be deducted from any monies due or to become due the Contractor.

The Department will be the sole authority in determining as to when the Completion Of The Physical Work has been achieved and if the project is complete.

Adjustments to work schedule

Adjustments to the contract time period will be made based on the Critical Path method schedule submitted by the Contractor in accordance with Special Provision 107 (Time – Schedule of Work). Delays due to extenuating circumstances beyond the control of the Contractor, in accordance with Standard Specification Section 109.5 will be considered when making time related adjustments. Adjustments will be separately made for each phase/stage of work subject to A+B Bidding.

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Adjustments for Incentive/Disincentive (I/D) . Adjustments to the I/D time periods will be made based on the Critical Path method schedule submitted by the contractor in accordance with scheduling provisions found elsewhere in the contract documents. Delays due to extenuating circumstances beyond the control of the Contractor, as provided in Standard Specification Section 109.5 will be considered when making time related adjustments. Adjustments will be separately made for each phase/stage of work subject to I/D provisions.

SPECIAL PROVISION

SECTION 107

TIME

(Scheduling of Work – Projected Payment Schedule)

Description The Contractor shall also provide the Department with a Quarterly Projected Payment Schedule that estimates the value of the Work as scheduled, including requests for payment of Delivered Materials. The Projected Payment Schedule must be in accordance with the Contractor's Schedule of Work and prices submitted by the Contractor's Bid. The Contractor shall submit the Projected Payment Schedule as a condition of Award.

**SPECIAL PROVISION
SECTION 202
(REMOVING EXISTING RAIL- RETAINED BY THE DEPARTMENT)**

The Contractor shall be responsible for removal, packaging and transporting the existing bridge rail from the project site to the following location:

Maine Department of Transportation
Carmel Bridge Lot
1542 Fuller Road
Carmel, Maine

The Contractor shall contact the Resident and Brian Hills, Maine DOT at (207) 941-4501 a minimum of 72 hours in advance of delivery.

The aluminum rail, post and pales shall be adequately secured to wooden pallets before being returned to the Department. Base plates, rail caps, splice bars, clamp bars and miscellaneous hardware shall be placed in wooden boxes on wooden pallets. The wooden boxes shall have wooden covers attached with two hinges and a clasp. The clasp shall be secured in the closed position by a method approved by the Resident. The size of the pallets and boxes shall be approved by the Resident. The weight limit on the pallets shall be such that no damage will occur to the pallets or the materials stored on the pallets. Maine DOT responsible for unloading bridge rail.

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 its 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 section 703.09. The mixture shall be designed and produced, including all production tolerances, to comply with the allowable control points for the particular type of mixture as outlined in 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 truck, unless unloading.

All truck bodies shall have an opening on both sides, which will accommodate a thermometer stem. The opening shall be located near the midpoint of the body, at least 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 per the manufacturer's recommendations, a copy of which shall be available if requested.

The Contractor shall have the paver at the project site sufficiently before the start of paving operations to be inspected and approved by the 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. On variable-depth courses, the first lift of pavement over gravel, reclaimed pavement, an irregular surface, or on bridges, at least one roller shall be 14.5 Mg [16 ton] pneumatic-tired. Unless otherwise allowed by the Resident, pneumatic-tired rollers shall be equipped with skirting to minimize the pickup of HMA materials from the paved surface. When required by the Resident, the roller shall be ballasted to 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 directly on the surface, parallel to the centerline of pavement.
- b.) A 3 m [10 ft] straightedge or string line placed directly on the surface, transverse to the centerline of pavement.

The Contractor shall correct variations exceeding 6 mm [$\frac{1}{4}$ 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 Gyrotory 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 available 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 @ N_d , 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.
- 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 Contractor 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 subplot 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 day's 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 - Refer to section 401.201, 401.202, and 401.203 for minimum size and number of sublots. The quantity represented by each sample will constitute a subplot.

If there is less than one-half of a subplot remaining at the end, then it shall be combined with the previous subplot. If there is more than one-half subplot remaining at the end, then it shall constitute the last subplot 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 the Maine DOT Policies and Procedures for HMA Sampling and Testing, which will then be transported by the Contractor to the designated MDOT Laboratory within 48 hours (except when otherwise noted in the project specific QCP due to local restrictions), 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 subplot. 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.

On all sections of overlay with wearing courses designed to be 19 mm [3/4 in] or less in thickness, there shall be no pay adjustment for density otherwise noted in Section 403 - Hot Bituminous Pavement. For overlays designed to be 19 mm [3/4 in] or less in thickness, density shall be obtained by the same rolling train and methods as used on mainline travelway surface courses with a pay adjustments for density, unless otherwise directed by the Department.

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 Pay Adjustment 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) The Department will use the following criteria for pay adjustment using the pay adjustment factors under Section 106.7 - Quality Level Analysis:

Density If the pay factor for Density falls below 0.80 for Method A or C or 0.86 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 0.86 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 subplot 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.

Gradation For HMA evaluated under Acceptance Method A or B, 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.

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 HMA evaluated under Acceptance Method C, the Department will determine a pay factor using acceptance limits from Table 7: Method C Acceptance Limits.

VMA, Air Voids, VFB and Fines to Effective Binder The Department will determine a pay factor (PF) using the applicable Acceptance Limits.

The following variables will be used for pay adjustment:

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

Pay Adjustment Method A

The Department will use the following criteria for pay adjustment: density, Performance Graded Asphalt Binder content, voids @N_d, VMA, VFB, F/B_{eff}, and the screen sizes listed in Table 9 for the type of HMA represented in the JMF. If any pay factor for any single property or composite gradation falls below 0.85, the Contractor shall shut down the HMA plant. If any single pay factor for PGAB Content, VMA, or Air Voids falls below 0.80, then the composite pay factor for PGAB Content, VMA, and Air Voids shall be 0.55.

Density: For mixes having a density requirement, the Department will determine a pay factor using Table 5: Method A Acceptance Limits:

$$PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$$

PGAB Content, VMA and Air Voids: The Department will determine a pay adjustment using Table 5: Method A Acceptance Limits as follows:

$$PA = (\text{voids @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{VMA @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{PGAB PF} - 1.0)(Q)(P) \times 0.10$$

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

Pay Adjustment Method B

The Department will use the following criteria for pay adjustment: density, Performance Graded Asphalt Binder content, voids @ N_d , VMA, VFB, F/B_{eff} , and the screen sizes listed in Table 9 for the type of HMA represented in the JMF. If any pay factor for any single property or composite gradation falls below 0.90, the Contractor shall shut down the HMA plant. If any single pay factor for PGAB Content, VMA, or Air Voids falls below 0.86, then the composite pay factor for PGAB Content, VMA, and Air Voids shall be 0.70.

Density: For mixes having a density requirement, the Department will determine a pay factor using Table 6: Method B Acceptance Limits:

$$PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$$

PGAB Content, VMA and Air Voids: The Department will determine a pay adjustment using Table 6: Method B Acceptance Limits as follows:

$$PA = (\text{voids @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{VMA @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{PGAB PF} - 1.0)(Q)(P) \times 0.10$$

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

Pay Adjustment 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. If any pay factor for any single property falls below 0.85, the Contractor shall shut down the HMA plant. If the PGAB content falls below 0.80, 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 0.80, then the composite pay factor for the four sieves shall be 0.55.

Density: For mixes having a density requirement, the Department will determine a pay factor using Table 7: Method C Acceptance Limits:

$$PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$$

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

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

VMA, Air Voids, VFB and Fines to Effective Binder The Department will determine a pay factor (PF) using Table 7: Method C Acceptance Limits. The Department will not make price adjustments for VMA, Air Voids, VFB or Fines to Effective Binder, but will monitor them as shutdown criteria.

Pay Adjustment Method D

The Department will use density, Performance Graded Asphalt Binder content, and the screen sizes listed in Table 8b for the type of HMA represented in the JMF. If test results do not meet the Table 8 requirements, deducts as shown in Table 8b shall be applied to the quantity of mix represented by the test.

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 Table 10: 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. If the value

reported for the dispute resolution falls precisely half-way between the other two values the value reported for the dispute resolution will replace the original acceptance value. 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 0.60 mm sieves | +/- 3.0% |
| Passing 0.30 mm to 0.15 | +/- 2.0 % |
| 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 subplot 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 equal to or 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:

| <u>Pay Item</u> | <u>Pay Unit</u> |
|---|-----------------|
| 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:

| <u>Pay Item</u> | <u>Pay Unit</u> |
|--|-----------------|
| 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 |
|---|-----------------|----------------|--------------------------|----------------|------------------|----------------|
| <u>Travel Way Approach Areas</u> | | | | | | |
| Wearing | 12.5 mm | 403.208 | N/A | 2.0 in | 1 | 6,8 |
| Binder | 12.5 mm | 403.213 | N/A | 2.0 in | 1 | 6,8 |
| Binder | 19.0 mm | 403.207 | N/A | 6.0 in | 2 | 6,8 |
| Base | 12.5 mm | 403.213 | N/A | 4.0 in | 2 | 6,8 |
| <u>Shoulder Approach Areas</u> | | | | | | |
| Wearing | 12.5 mm | 403.208 | N/A | 2.0 in | 1 | 6,8 |
| Binder | 12.5 mm | 403.213 | N/A | 2.0 in | 1 | 6,8 |

COMPLEMENTARY NOTES

6. The design traffic level for mix placed shall be 10 to <30 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**.
8. Section 106.6 Acceptance, (2) Method B.

Tack Coat

A tack coat of emulsified asphalt, RS-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. A fog coat of emulsified asphalt shall be applied between shim / intermediate course and the surface course, at a rate not to exceed 0.025 gal/yd².

Tack used between layers of pavement will be paid for at the contract unit price for Item 409.15 Bituminous Tack Coat.

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Concrete Wearing Surface)

The following shall be added to Sections:

502.14 Finishing Concrete Surfaces

F. Transverse Saw Cut Grooving of Concrete Wearing Surface

Description A transverse saw cut finish will be applied to the concrete wearing surface after the specified curing period has elapsed.

Materials Use a multi-bladed wet saw cutting equipment using circular saw blades. The Resident Engineer may allow the use of a single blade, circular saw equipment, where it is determined such equipment is necessary to complete the work as required. The equipment the Contractor proposes to use will be subject to the approval of the Resident Engineer, prior to use.

Construction Requirements: Start saw cutting only after the specified curing period has elapsed and surface tolerance limits (502.14) are acceptable to the Resident. Cut transverse grooves perpendicular to the centerline of the roadway using a single pass. Cut all grooves in a rectangular shape conforming to the following dimensions:

Spacing: Center-to-Center $\frac{3}{4}$ " to $1\frac{1}{4}$ "

Width: $\frac{1}{8}$ " +/- $\frac{1}{32}$ "

Depth: $\frac{1}{4}$ " +/- $\frac{1}{16}$ "

Terminate grooves within 6" to 12" of the vertical face of curb or parapet.

During the grooving operations, the Resident Engineer will verify, at random, that the minimum grooved depth is being achieved. Should the Resident Engineer determine the minimum groove depth is not being achieved; the contractor shall stop grooving operations and make all adjustments necessary to achieve the minimum depth.

The Contractor will supply the Resident with two (2) accurate, easily readable gauges with which to verify groove depth. Deliver the gauges and applicable manufacturer's instructions for use, if necessary, no later than one week prior to the anticipated beginning of grooving operations.

The contractor shall continuously collect and dispose of all slurry or debris created by this activity.

502.18 Method of Measurement: The quantity will not be measured directly for payment.

502.19 Basis of Payment: The Payment for the Transverse Saw Cut Grooving will include, but not limited to, all materials, equipment and labor to perform the work and shall be considered incidental to item 502.26 Structural Concrete Roadway and Sidewalk Slab on Steel Bridges.

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Precast Deck Panels)

Description This work shall consist of casting, furnishing, and erecting prestressed structural concrete deck panels (hereafter called “precast deck panels”) and all related materials as an optional stay-in-place forming system in accordance with the contract plans and specifications.

Construction Precast Deck Panels shall comply with Section 535 – Precast, Prestressed Concrete Superstructure.

Precast deck panels shall be manufactured in conformity with the following tolerances:

| | |
|---|--|
| Depth of slab | - 3 mm, + 6 mm [-1/8 in, + 1/4 in] |
| Width of slab | -0, + 6 mm [-0, + 1/4 in] |
| Length of slab | ± 6 mm [± 1/4 in] |
| Horizontal alignment | 6 mm [1/4 in] (deviation from line parallel to centerline) |
| Squareness | 13 mm [1/2 in] max. Difference in diagonal meas. |
| Vertical Position of Strand group | +0, - 6 mm [+0, -1/4 in] Meas. from bottom of slab |
| Vertical position of individual strands | ± 6 mm [± 1/4 in] |
| Horizontal strand position | ± 13 mm [± 1/2 in] |
| Strand Projection | -6mm, +19 mm [- 1/4 in, + 3/4 in] |
| Bowing | ± 6 mm [± 1/4 in] |
| Threaded jack inserts | ± 6 mm [± 1/4 in] longitudinally and transversely |

Basis of Payment All work will be considered incidental to and included in Pay Item 502.26 Structural Concrete Roadway and Sidewalk Slab on Steel Bridges. Payment shall include full compensation for all materials wholly or partly in the precast deck panels and related materials or work required for the panel erected as shown on the plans. Related materials and work will include, but not limited to furnishing and installing temporary supports, including adhesive and grout bedding, reinforcing steel, welded wire fabric and cast-in-place concrete.

SPECIAL PROVISION
SECTION 502
 STRUCTURAL CONCRETE
 (QC/QA Acceptance Methods)

| CLASS OF CONCRETE | ITEM NUMBER | DESCRIPTION | P | METHOD |
|-------------------|-------------|---|-------|--------|
| A | 502.219 | Structural Concrete, Abutments and Retaining Walls | \$400 | A |
| A | 502.26 | Structural Concrete Roadway and Sidewalk Slab on Steel Bridge | \$400 | A |
| | | | | |
| LP | 526.331 | Permanent Concrete Barrier Type III b | \$450 | A |
| | | | | |

P values listed above reflect the price per cubic yard for all pay adjustment purposes.

SPECIAL PROVISION
 SECTION 502
 STRUCTURAL CONCRETE
 (Quality Level Analysis)

The second sentence of 502.01, Description, of the 2002 Revision of the Standard Specifications is deleted and replaced by the following:

For METHOD A Statistical Acceptance, or METHOD B Statistical Acceptance, the work shall conform to the Contractor's approved Quality Control (QC) Plan and Quality Assurance (QA) provisions, in accordance with these Specifications and the requirements of Section 106 - Quality.

TABLE 1, under Subsection 502.05, Composition and Proportioning, of the 2002 Revision of the Standard Specifications is deleted and replaced by the following:

TABLE 1- Methods A and B

| Concrete CLASS | Compressive Strength (PSI) | | Permeability (COULOMBS) | | Entrained Air (%) | | Notes |
|----------------|----------------------------|-------|-------------------------|-------|-------------------|-----|-----------|
| | LSL | USL | LSL | USL | LSL | USL | |
| S | 2,900 | N/A | N/A | N/A | 6.0 | 8.5 | 1, 5 |
| A | 4,350 | ----- | ----- | 2,400 | 6.0 | 8.5 | 1,2,5,6 |
| P | ----- | ----- | ----- | ----- | 4 | 6 | 1,2,3,4,5 |
| LP | 5,075 | ----- | ----- | 2,000 | 6.0 | 8.5 | 1,2,5,6 |
| Fill | 2,900 | N/A | N/A | N/A | N/A | N/A | 6 |

Subsection 502.0503, Quality Assurance METHOD B, of the 2002 Revision of the Standard Specifications is deleted and replaced by the following:

502.0503 Quality Assurance METHOD B The Department will determine the acceptability of the concrete through a quality assurance program.

The Department will take Quality Assurance samples a minimum of once per subplot on a statistically random basis. 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.

Lot Size A lot size shall consist of the total quantity represented by each class of concrete in the Contract, except in the case when the same class of concrete is paid for under both lump sum items and unit price items in the Contract; in this case, the lump sum item quantities shall comprise 1 lot and the unit price item quantities shall comprise a separate lot. A lot shall consist of a minimum of 3 and a maximum of 10 sublots. If a lot is comprised of more than 10 sublots, sized in accordance with Table #3, then this quantity shall be divided equally into 2, or more, lots such that there is a minimum of 3 and a maximum of 10 sublots per lot. If there is insufficient quantity in a lot to meet the recommended minimum subplot size, then the lot shall be divided into 3 equal sublots.

Sublot Size, General The size of each subplot shall be determined in accordance with Table #3. The Resident may vary subplot sizes based on placement sizes and sequence.

Sublot Size, Unit Price Items Sublot sizes will initially be determined from estimated quantities. When the actual final quantity of concrete is determined: If there is less than one-half the estimated subplot quantity in the remaining quantity, then this quantity shall be combined with the previous subplot, and no further Acceptance testing will be performed; if there is more than one-half the estimated subplot quantity in the remaining quantity, then this quantity shall constitute the last subplot and shall be represented by Acceptance test results. If it becomes apparent part way through a lot that, due to an underrun in quantity, there will be an insufficient quantity of concrete to comprise three sublots, then the Resident may adjust the sizes of the remaining sublots and select new sample locations based on the revised estimated quantity of concrete remaining in the lot.

Sublot Size, Lump Sum Items Each lot shall be divided into sublots of equal size, based on the estimated quantity of concrete.

TABLE 3

| Quantity m ³ [cy] | Recommended Sublot Size m ³ [cy] |
|------------------------------|---|
| 0-400 [0-500] | 40 [50] |
| 401-800 [501-1000] | 60 [75] |
| 801-1600 [1001-2000] | 80 [100] |
| 1601 [2001] or greater | 200 [250] |

Determination of the concrete cover over reinforcing steel for structural concrete shall be made prior to concrete being placed in the forms. Bar supports, chairs, slab bolsters, and side form spacers shall meet the requirements of Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice, Chapter 3 Section 2.5 Class 1, Section 2.6 Class 1A, or Section 4. All supports shall meet the requirements for type and spacing as stated in the CRSI Manual of Standard Practice, Chapter 3. Concrete will not be placed until the placing of the reinforcing steel and supports have been approved by the Resident. If the Contractor fails to secure Department approval prior to placement, the Contractor's failure shall be cause for removal and replacement at the Contractor's expense. The Contractor shall notify the Resident, at least 48 hours prior to the placement, when the reinforcing steel will be ready for checking. Sufficient time must be allowed for the checking process and any needed repairs.

Evaluation of materials will be made using the specification limits in Table 1.

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

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

Rapid Chloride Permeability test specimens will be completed by the Resident in accordance with AASHTO T-277 at an age ≥ 56 days. Two 100 mm x 200 mm [4 in x 8 in] cylinders will be taken per sublot placed.

Surface Tolerance, Alignment and Trueness, Plumb and Batter, and Finish will be measured as described in Section 502.0502.

Rejection by Resident For an individual sublot with a calculated pay factor of less than 0.80, the Department will, at its sole discretion:

- A. Require the Contractor to remove and replace the entire affected placement with concrete meeting the Contract requirements at no additional expense to the Department, or

B. Accept the material, at a reduced payment as determined by the Department. (See also Section 502.191)

For a lot in progress, the Contractor shall discontinue operations whenever one or more of the following occurs:

- A.** The pay factor for any property drops below 1.00 and the Contractor is taking no corrective action
- B.** The pay factor for any property is less than 0.90
- C.** The Contractor fails to follow the QC Plan

Paragraph E, under Subsection 502.18, Method of Measurement, of the 2002 Revision of the Standard Specifications is deleted and replaced by the following:

E. For the purposes of making pay adjustments under Method A, quantities of lots and sublots shall be determined as outlined under Section 502.0502 - Quality Assurance Method A, Section 502.0503- Quality Assurance Method B, and under Section 502.19 - Basis of Payment.

The first sentence in the seventh paragraph of Subsection 502.19, Basis of Payment, of the 2002 Revision of the Standard Specifications is deleted and replaced by the following:

Pay adjustments will be made only for cast-in-place concrete accepted under Method A and Method B.

Subsection 502.191, Pay Adjustment for Compressive Strength, of the 2002 Revision of the Standard Specifications is deleted and replaced by the following:

502.191 Pay Adjustment for Compressive Strength Compressive strength tests will be completed by the Department in accordance with AASHTO-T22 at 28 days.

Pay factors (PF) for pay adjustments for compressive strength will be determined using the Quality Level Analysis as specified in Section 106.

If three consecutive tests fail to meet the below listed strength requirements, the Contractor shall submit remedial actions acceptable to the Department, at no additional cost. These remedial actions shall be taken until the source of the problem can be identified and corrected or new trial batches can be performed. When the average of three consecutive tests falls to less than 1.0 MPa [150 psi] above the specified strength or

any single test more than 1.4 MPa [200 psi] below the specified strength, the Resident will notify the Contractor to make corrective changes in the materials, mix proportions, or in the concrete manufacturing procedures before placing additional concrete of the same class. Such changes shall be subject to the approval of the Resident.

Subsection 502.192, Pay Adjustment for Chloride Permeability, of the 2002 Revision of the Standard Specifications is deleted and replaced by the following:

502.192 Pay Adjustment for Chloride Permeability Pay factors (PF) for pay adjustments for Chloride Permeability will be determined using the Quality Level Analysis as specified in Section 106.

Values greater than 4000 coulombs shall be subject to rejection and replacement at no additional cost to the Department.

Subsection 502.193, Pay Adjustment for Air Content, of the 2002 Revision of the Standard Specifications is deleted and replaced by the following:

502.193 Pay Adjustment for Air Content Pay factors (PF) for pay adjustments for air content will be determined using the Quality Level Analysis as specified in Section 106.

The following subsection is added to the 2002 Revision of the Standard Specifications:

502.195 Pay Adjustments for Compressive Strength, Chloride Permeability and Air Content The Composite Pay Factor (CPF) for each lot of concrete shall be computed as follows:

$$\text{CPF} = [(\text{Compressive Strength PF}-1)(0.20)] + [(\text{Air Content PF}-1)(0.40)] \\ + [(\text{Chloride Permeability PF}-1)(0.40)]$$

The pay adjustment for each lot of concrete shall be computed as follows:

$$\text{Lot Pay Adjustment} = P \times \text{CPF} \times \text{Lot Size}$$

There will be no positive pay adjustments for Method B Concrete.

SPECIAL PROVISION
SECTION 506
STEEL COATINGS

506.01 Description of Work

This work shall consist of the surface preparation, application of a protective coating to steel substrate, and the containment and disposal of hazardous wastes in accordance with the Plans and this Specification.

506.02 Materials Requirements

506.02.1 General Material Requirements The Contractor shall supply the Resident (for work performed in shops, away from the job site, Resident refers to the Fabrication Engineer) with the applicable current product data sheets and material safety data sheets (MSDS) before any coating work is performed.

506.02.2 Paint Material Requirements: Paint systems shall be from the Northeast Protective Coating Committee (NEPCOAT) Qualified Products List (QPL), (<http://www.nepcoat.org>). The primer, intermediate and topcoat shall be contrasting colors. The topcoat color shall match, as close as practical, that of the existing steel.

The Contractor shall provide the paint batch description, lot number, date of manufacture, shelf life and the manufacturer's published storage requirements to The Department's authorized representative. The Contractor shall provide the manufacturer's published data sheet for application of each coat of the coating system including equipment, surface cleanliness, anchor profile, mixing, thinning, application, cure time for the entire range of allowable environmental conditions and dry film thickness (DFT).

506.02.3 Galvanizing Material Requirements: Hot-dip galvanizing shall meet the requirements of AASHTO M 111M/M 111 (ASTM A 123/A 123M) including any applicable requirements from AASHTO M 111M/M 111 (ASTM A 123/A 123M) Section 2-Referenced Documents. The minimum average coating thickness grade shall conform to Table 1. The Quality Assurance Inspector shall verify Quality Control thickness test results using the same test method used by the Quality Control Inspector.

Certification of compliance and written test results shall be provided to The Department in accordance with AASHTO M 111M/M 111 (ASTM A 123/A 123M).

506.02.4 Thermal Spray Coating (TSC) Material Requirements: Feedstock shall meet the requirements of ASTM B 833, 85/15 Zinc-Aluminum (W-ZnAl-2). The Contractor shall submit a certified analysis of the feedstock to the Resident.

Seal coat and topcoat shall meet the following requirements:

| | |
|-----------|--|
| Seal Coat | As recommended by the Topcoat Manufacturer |
| Topcoat | A listed topcoat product from the NEPCOAT QPL System A, B or C |

The seal coat shall contain pigmentation to indicate uniformity of application.

506.02.5 Fusion Bonded Epoxy (FBE) Material Requirements: The FBE coating shall be a one-part, powder coating meeting the following requirements:

| Property | Test Method | Value |
|----------------------|--|--|
| Impact Resistance | ASTM G 14 3 lb. @ 40° F | 80 inch-lb Min. |
| Abrasion Resistance | ASTM D 4060 (CS 10 wheel, 1000 gr. Load) | <70 mg/ 1000 cycles |
| Chemical Resistance | ASTM G 20 Modified (30 day immersion) | 10 % CaCl no effect 10 % NaOH no effect |
| Cathodic Disbondment | ASTM G 8, Method A | 3/8 in disbondment radius |

The Contractor shall supply certified copies of all test results to the Resident. The test results shall include the lot number tested, date, test method and testing agency. The tests shall have been performed within 12 months of the beginning of work.

The Contractor shall provide to the Resident a Certified Mill Test Reports for the material to be coated prior to beginning the coating process.

Prior to shipment, the applicator shall furnish written certification that the coated pieces meet the requirements of this Specification.

506.02.6 Dry Powder (Polyester) Coating Material Requirements VACANT

506.03 Construction Requirements

506.03.1 General Construction Requirements: Unless specified elsewhere in the Contract, the Contractor shall have the option of determining which coats are applied prior to and after steel erection or installation. Each coat shall be applied in accordance with the manufacturer's published data sheet and this Specification. In the event of a conflict between the published data sheet and this Specification, the more stringent requirement will prevail.

When bridge beams or pipe piles are coated, the following information shall be stenciled over the top coat: paint system used, including coating manufacturer, number of coats and coat description, month and year coated. The stenciling material shall be identical to touch up material recommended by the top coat manufacturer and the color shall contrast with the top coat. Stenciling shall be on the inside face of the fascia beam, near abutment 1 for beams; for piles, stenciling shall be on the downstream side of the upstream pile

near the pile cap of each pier unit. Information shall be in block characters three to five inches high. All top coated systems shall be stenciled, including one, two or three coat systems, top coated galvanized systems and dry powder systems.

Submittals: The Contractor shall submit for review by the Department the following as applicable 2 weeks prior to the Pre-work Conference:

- The manufacturers' published data sheet(s) for the specified protective coating system.
- Quality Control Plan.
- Containment Plan.
- The Contractor's qualifications.
- Material Safety Data Sheets.
- Environment Protection Plan
- Waste Management Plan
- All other documentation specified herein.

Pre-Work Conference: The Contractor shall have a pre job work conference two weeks prior to the beginning of work. 2 weeks notice shall be given to the Resident prior to the meeting. The Resident and the Contractor shall agree on the agenda, which may include the following as applicable:

- Status of submittals and review
- Procedures for lead abatement
- Coating application
- Quality Control Inspections
- Reasonable Notice
- Responsibilities and documentation methods of all parties
- Safety
- Progress Payments
- Schedule

Quality Control/Quality Assurance: The Contractor shall develop, submit, and implement a Quality Control Plan for all work done under Section 506 in accordance with Section 106.4 Quality Control. The Department will conduct Quality Assurance as outlined in 106.5 Quality Assurance. The QC plan shall include the names of all the Contractor's representatives on site, including the certified coating inspector who shall be responsible for the inspection and the acceptance of the Contractor's work prior to the Department's inspection. The plan shall also define Quality Control Inspections from surface preparation inspection to final inspection, frequency of inspections, frequency of tests, submittal of daily work reports, coating/DFT reports and the process for rework. For non-compliance with the QC Plan see Standard Specification Section 106.4.6 QCP Non-Compliance.

Inspection: Quality Control (QC) is the responsibility of the Contractor. The Quality Control Inspector (Q.C.I.), the Contractor's authorized representative, shall inspect all aspects of the work and shall supervise required testing. The Q.C.I. shall record measurements and test results in a Job Control Record (JCR). The Q.C.I. shall reject materials and workmanship that do not meet contract requirements. The results of all testing shall be documented and a copy made available to the Department's Quality Assurance Inspector (Q.A.I.) on a daily basis or as requested by the Q.A.I.

The Q.C.I. shall give reasonable notice to the Q.A.I. of all scheduled Quality Control Inspections. The Q.A.I. shall, at a minimum, witness the following inspections; Surface Preparation, Mixing and Thinning of coatings, Environmental Conditions, DFT inspections, & Final Inspection. The Q.A.I. will notify the Q.C.I. of additional inspections that (s)he desires to witness. If the Q.A.I. fails to be present at scheduled QC Inspections, the Contractor may proceed with the work. If the work to be inspected has been covered prior to the scheduled QC inspection, that work will be rejected.

Quality Assurance (QA) is the prerogative of the Department. The Q.A.I. will ensure that the QC role is functioning properly; verify documentation, periodically inspect workmanship and witness testing. QA testing deemed necessary by the Resident in addition to the minimum test requirements will be scheduled to minimize interference with the production schedule.

The JCR shall include the following, as applicable:

- Type of containment, when required.
- Surface preparation - cleanliness and anchor profile.
- Environmental conditions – ambient temperature, surface temperature, relative humidity, dew point.
- Coating batch and/or lot number, date of manufacture and shelf life.
- Manufacturer's certification of conformance.
- Dry Film Thickness (DFT) required/DFT measured.
- Cure data-time/temperature/relative humidity.
- Final inspection by the Q.C.I. and acceptance by the Resident.
- Disposition of non-conforming items.

Quality Assurance Inspector's Authority: The Q.A.I. has the authority to reject material or workmanship that does not meet the contract requirements.

Facilities for Inspection: For projects that have protective coating application in the shop or off-site, the Contractor shall provide a private office at the coating site for inspection personnel authorized by the Department. The office shall have an area not less than 100 ft² and shall be in close proximity to the work. The office shall be climate controlled to maintain the temperature between 65° F and 80° F. All exit(s) to the office shall have door(s) equipped with a lock and two keys, which shall be furnished to the Inspector(s). The office shall be equipped with a desk or table having a minimum size of 48 in. by 30

in, two chairs, a telephone, telephone answering machine, separate high speed internet line, plan rack and 2-drawer letter size file cabinet with a lock and two keys that shall be furnished to the Inspector(s).

The facilities and all furnishings shall remain the property of the Contractor upon completion of the work. Payment for the facilities, climate control, lighting, telephone installation, basic monthly telephone charges and all furnishings shall be incidental to the contract.

506.03.2 Painting Construction Requirements: The following documents are incorporated into the Contract by reference and the Contractor shall provide the latest copies on site:

- SSPC Structures Painting Manual, Volumes 1 and 2 (Good Painting Practice and Systems and Specifications).
- SSPC Vis 1, Visual Standard for Abrasive Blast Cleaned Steel
- SSPC Guide 6-Guide for Containing Debris Generated During Paint Removal.
- SSPC Guide 7, Guide for the Disposal of Lead-Contaminated Surface Preparation Debris.

The manufacturer's printed product data sheets at the time of bid shall be those used during the duration of the project. New printed product data sheets may be substituted with the Resident's approval. The Contractor shall obtain in writing from the coating manufacturer, and provide to the Resident, a chart or table listing minimum and maximum recoat times for the primer and intermediate coat over the expected range of temperatures, relative humidity, and range of acceptable primer thickness.

The Contractor shall sample each batch of coating. Paint shall be sent to an independent lab to be "fingerprinted" by IR (infrared spectroscopy) to check the formulation and determine unit weight compared to that on the NEPCOAT list at the Contractor's expense. This sampling will be witnessed by the Department's Q.A.I.

All Contractors and subcontractors involved with the field application and touch up of the paint shall have SSPC-QP1 certification prior to bid opening and shall maintain this certification current throughout the duration of the Contract until final acceptance of the work.

Shop-applied coating systems shall be applied by applicators that hold a current AISC Sophisticated Paint Endorsement (SPE) or are qualified in accordance with SSPC QP3-*Standard Procedure for Evaluating Qualifications of Shop Painting Applicators*.

Limits of work: All surfaces exposed in the assembled product shall be coated. Surfaces to be embedded in concrete shall receive a mist coat 0.5 to 1.0 mils of primer only.

Faying surfaces of bolted connections shall be primed with a product that complies with a class B slip coefficient in accordance with the “*Specification for Structural Joints Using ASTM A325 or A 490 Bolts*” by the Research Council of Structural Connections (RCSC).

Personnel: The Contractor shall provide Quality Control personnel in accordance with the requirements of AISC SPE or SSPC QP-3 or have successfully completed SSPC BCI training and are so certified.

Surface Preparation: Chloride and ferrous salts should be expected to be present, on existing coated steel, especially at corrosion sites. Before any existing coating can be removed, these salts must be reduced to acceptable levels.

The Contractor must verify that residual soluble salts are at a surface cleanliness condition of NV-2, or better, in accordance with SSPC-SP12, as determined by the Bresle Test, Chlor-Rid Test or approved equal. The Contractor shall test for soluble salts at a minimum of five locations per area of containment enclosure used for each day’s blast production area. Test locations are to be determined and witnessed by the Resident.

Surface preparation shall be a minimum of SSPC SP-10 unless a higher standard of surface cleanliness is required by the manufacturer's published data sheet. SSPC VIS. 1 shall be used to determine acceptable surface cleanliness.

Pre-Production Surface Preparation Test Section: The Contractor shall prepare a test section at least 1 square meter in size to the specified degree of cleaning (SSPC-SP10), using the same equipment, materials and procedures that will be used for the length of the project. This test section shall be used as a reference for the balance of the work.

The Resident will take site-specific photographs of the approved SSPC SP-10 test section for use on the project. Use the site-specific photographs of the approved test sections together with SSPC-Vis 1 and the written surface preparation specifications as the standards of cleaning for the project. If all parties agree, the site-specific photographs may be used in place of SSPC-Vis 1. In the event of a conflict between the site-specific photographs, SSPC-Vis 1, and the written definitions, the written definitions will prevail.

Prior to abrasive blast cleaning *new* steel, all corners exposed in the assembled product shall be rounded to approximately a 1/8 inch radius. A series of tangents to the approximate radius will be considered as a rounded. The Contractor shall prepare a plate approximately 3 inches by 12 inches with the appropriate rounded corner. The plate shall become the Job Standard for corner preparation. The plate shall remain the property of the Contractor. In lieu of rounding the corners, the Contractor may provide an application process that ensures minimum coating thickness build-up on the corners. The process must be demonstrated in advance of application and during production.

After abrasive blast cleaning, the surface shall be visually inspected by the Q.C.I. and Q.A.I. for fins, tears, delaminations and other unacceptable discontinuities. Unacceptable discontinuities shall be removed with a grinder or other suitable power tool and the area shall be blended at a slope of approximately 1:20. The affected area(s) shall be abrasive blast cleaned to develop an acceptable anchor profile.

The Contractor may propose an alternative method of developing an acceptable anchor profile on the substrate. The Contractor shall demonstrate the effectiveness of the proposed method by preparing a 12 inch by 12 inch plate using the proposed method and coating the plate with primer in a manner that duplicates production application technique. The plate shall be divided into four equal quadrants. After the primer has cured, an adhesion test shall be performed in the center of each quadrant in accordance with ASTM D 4541. The minimum tensile bond shall be 725-psi unless a higher tensile bond is required in the manufacturer's published literature. If all four adhesion tests meet or exceed the specified requirements, the proposed method will be acceptable. The proposed alternative method of developing an acceptable anchor profile shall be limited to areas no greater than 6 square inches.

The anchor profile shall meet the requirements of the manufacturer's published data sheet. The anchor profile shall be measured in accordance with ASTM D 4417 Method C. If the anchor profile fails to meet the minimum requirements, the Contractor shall re-blast the substrate until the minimum required anchor profile is achieved. If the anchor profile exceeds the maximum allowed in the manufacturer's published data sheet, the substrate may be coated only with the prior approval of the Resident.

The Q.C.I. shall measure the anchor profile of the substrate on each plane of the first piece and each additional piece with a significant change in size or geometry. The Q.A.I. will witness the testing. After it has been established to the satisfaction of the Resident that the abrasive blast equipment is capable of providing uniform, acceptable surface preparation, a diminished degree of testing shall be agreed upon by the Q.C.I. and Q.A.I. but shall not be less than one set of tests per shift.

Material that has been contaminated after blasting by handling, storage or other means shall be solvent cleaned and re-blasted prior to primer application.

If compressed air is used for abrasive blast cleaning, a blotter test shall be performed in accordance with ASTM D 4285 at the beginning of each shift. The Q.A.I. shall be present to witness the blotter test.

The allowable time between abrasive blast cleaning and primer application shall not exceed the manufacturer's published recommendations or eight hours, whichever is less.

Application: Coating shall only be applied to clean surfaces that comply with the coating manufacturer's published recommendations and this specification. The Q.A.I. shall

witness the mixing and thinning of the coatings. Failure to notify the Q.A.I. shall result in the coating being rejected.

Thinning and mixing of coatings shall be in conformance with the manufacturer's published data sheet. Thinner shall be measured using a graduated cup or other container that clearly indicates the amount of thinner being added. Mixing shall be done using the method, equipment, and time recommended by the coating manufacturer.

The Q.C.I. shall record the batch and lot numbers of the coating, the type and amount of thinner used, the time and pot life of the coating. The Q.A.I. shall confirm that the record is correct.

Coating equipment including mixers, hoses, tip size and guns shall meet the recommendations of the manufacturer's published data sheet.

The environmental conditions in the immediate vicinity of the steel to be coated shall be within the ranges in the manufacturer's published data sheet during the coating operation and during the cure period. Ambient temperature, surface temperature, relative humidity and dew point shall be measured and recorded by the Q.C.I. The Q.A.I. may perform environmental testing in addition to the testing performed by the Q.C.I. If there are differences between the test results, the differences shall be resolved or explained to the satisfaction of the Resident prior to coating application. The results of the environmental testing shall be recorded in the JCR.

Corners, fasteners, welds, and inaccessible locations shall be striped in accordance with SSPC PA 1. The striping shall extend a minimum of 1 inch from each edge. Striping will not be required for inorganic zinc primers, on intermediate and topcoat; however, the Contractor shall meet the minimum DFT requirements on all surfaces.

Caulking is required to seal all gaps between abutting surfaces over 1/8 inch wide and areas of pack rust that cannot be removed, as directed by the Resident. When the use of caulking is required the Contractor shall provide the name, generic type, technical data sheets, and application instructions for the material to the Resident, and shall receive concurrence from the coating supplier that the caulking is compatible for use with the coating.

Cure and recoat time shall be in accordance with the manufacturer's published data sheet for the environmental conditions at the time of application and cure. The Contractor shall provide the cure and recoat times for the environmental conditions in the immediate vicinity of the coated product. The cure and recoat times shall be provided on the coating manufacturer's letterhead and shall be authorized by a technical representative of the company.

The Contractor shall provide digital data recorders that measure and record temperature and relative humidity. The Contractor shall provide the software necessary to download the recorded data. The Contractor shall provide a minimum of two data recorders which shall be placed in the immediate vicinity of the application operation. The data recorders shall measure and record the temperature and relative humidity during the entire curing cycle. No subsequent coating shall be applied until the Contractor demonstrates that the curing cycle meets the requirements of the manufacturer's product data sheet. This requirement shall apply to both shop and field application.

The Q.A.I. shall be given ample notice in order to inspect the product prior to coating. Substrates that are coated without notification of the Q.A.I. will be rejected.

Dry Film Thickness: DFT shall be measured in accordance with SSPC PA 2. The results shall be documented in the JCR. The JCR documentation shall include the actual gage readings, spot average and the location(s). Each piece or area presented for acceptance, regardless of size shall be considered a separate structure for purposes of determining the number of spot measurements to be taken except that large quantities of small parts and/or secondary framing members coated at the same time may be measured at a lesser frequency as directed by the Resident. When random DFT testing of a large quantity of small parts and/or secondary framing members results in unacceptable DFTs, the Contractor shall have the option of measuring and documenting the DFT of each piece or removing the coating and/or recoating all pieces represented in the production lot.

Touch-up and Repairs: Touch-up shall be done in accordance with the manufacturer's published data sheet and this Specification. Areas to be touched up shall be prepared to assure proper adhesion of each coat. Each existing coat shall be feathered back to assure that each touch-up coat is continuous with each corresponding existing coat. The top-coat shall be smooth and uniform in appearance.

Damaged or unacceptable shop coating shall be repaired before the piece is removed from the paint area. Damaged areas shall be prepared in accordance with the manufacturer's published instructions or as directed by the Resident. Damaged or unacceptable coatings shall be repaired using the same coating system. Environmental conditions cure times and DFTs shall be in accordance with manufacturer's published data sheet for the coating being applied. Repairs to topcoat shall result in a uniform gloss and color match. The Resident shall have final authority concerning acceptable appearance.

If repairs larger than 6 square inches are made to the top coat of fascia beam, the entire beam shall be re-coated after repairs are completed.

Handling and Storage: The coating shall be adequately cured before handling but under no circumstances shall the product be handled before the coating has achieved the

manufacturer's published minimum cure and/or handling time. Coated members shall be handled in a manner to avoid damage to the coating. Members shall be lifted and moved using non-metallic slings, padded chains and beam clamps, softeners, or by other non-injurious methods. Material shall be stored in a manner that prevents damage to the coating.

Damage to the coating that is discovered after the product is loaded for shipment to the job site shall be documented by the Q.C.I. Minor damage as a result of handling shall be considered field repair unless, in the opinion of the Resident the damage is the result of negligence or poor handling methods. Damage that is deemed to be the result of negligence or poor handling methods shall be repaired as directed by the Resident.

506.03.3 Galvanizing Construction Requirements

Surface Preparation: Steel substrate shall be abrasive blast cleaned to a minimum of SSPC SP 6/NACE 3-Commercial Blast Cleaning prior to galvanizing.

Repairs: Repairs to galvanizing shall be in accordance with Annex A1 or A3 of ASTM A 780. Zinc-rich paints for repairs may only be used with approval of the Engineer.

Top-coating Galvanized Surfaces: Areas of galvanized surfaces to be top-coated will be described on the plans or in the Special Provisions.

Chromate quenching and other types of quenching after galvanizing are not permitted.

Hot Dip Galvanized surfaces to be painted shall be smooth and have a uniform zinc thickness that is free of runs, sags and heavy buildup.

Surfaces to be top-coated shall be cleaned in accordance with SSPC-SP1 using either solvent or steam cleaning alternatives; an alkali alternative may be used provided the pH is 11 or less. After solvent cleaning, all surfaces shall be prepared in accordance with SSPC-SP7/NACE No.4-Brush-Off Blast Cleaning. The surface shall have an anchor profile that corresponds with the manufacturer's published data sheet. The blast media shall be a mineral or mineral slag that meets the requirements of SSPC AB-1-Mineral and Slag Abrasives. Steel shot or grit is not allowed.

Coatings for topcoat shall be from the current NEPCOAT QPL-list A, B or C. The topcoat color shall be green, Federal Standard 595B, color No. 14272 unless otherwise specified.

Surfaces to be top-coated shall be prepared and coated in an enclosed facility. Paint shall be stored and handled in accordance with the manufacturer's published data sheet and SSPC-PA 1. DFT shall be in accordance with the coating manufacturer's published recommendations for the type service intended. Primer shall be an epoxy coating as

recommended by the topcoat manufacturer. Touch-up shall be in accordance with the coating manufacturer's recommendations. If the repair area of the topcoat is greater than six in.², the entire piece shall be re-coated.

506.03.4 Thermal Spray Coating Construction Requirements: The following document is incorporated into the Contract by reference and the Contractor shall provide the latest copy on site: **Joint Standard SSPC-CS 23.00/AWS C2.23M/NACE No. 12, Specification for the Application of Thermal Spray Coatings (Metallizing) of Aluminum, Zinc, and Their Alloys and Composites for the Corrosion Protection of Steel.**

Thermal Spray Coating (TSC), including sealers and top coating, fusion bonded coatings and hot-dip galvanizing shall be applied in facilities with a minimum of five years documented experience of satisfactory performance. The applicator shall provide documentation (including Quality Control records) and references of successful application that are acceptable to the Resident.

Surface Preparation: Prior to abrasive blast cleaning, all corners exposed in the assembled product shall be rounded to approximately a 1/16 inch radius. A series of tangents to the approximate radius will be considered as a rounded edge. The Contractor shall prepare a plate approximately 3 inches x 12 inches with the appropriate rounded corner and the plate shall become the Job Standard. The plate shall remain the property of the Contractor.

Surfaces to be coated shall be abrasive blast cleaned to the requirements of SSPC SP 5/NACE No. 1, White Metal Blast Cleaning. SSPC VIS. 1 shall be used to determine acceptable cleanliness. If more than one method of abrasive blast cleaning is used (e.g. centrifugal blast and compressed air), the acceptable Job Standard for each process shall be established.

The anchor profile shall be 2.0-4.0 mils. The anchor profile shall be measured in accordance with ASTM D 4417 Method C. If the anchor profile fails to meet the minimum required profile, the Contractor shall re-blast the substrate until the minimum required anchor profile is achieved.

The Q.C.I. shall measure the anchor profile of the substrate on the first piece blasted at the beginning of each shift and at a frequency not to exceed 4 hours thereafter. A measurement shall consist of one measurement on each plane of structural shapes or at approximately 120° intervals on pipes and round tubes. The Q.A.I. will witness the testing. If there is a significant change in the depth of the anchor profile due to blast media degradation or other cause, the Contractor shall take corrective action before continuing to abrasive blast clean the substrate.

If compressed air is used for abrasive blast cleaning, a blotter test shall be performed in accordance with ASTM D 4285 at the beginning of each shift. The Q.A.I. shall be present to witness the blotter test.

DFT Requirements: The coating thickness shall be between 14 mils and 17 mils. The DFT on faying surfaces shall not exceed the thickness tested for Class B slip coefficient rating.

The TSC shall have a minimum tensile bond of 725 psi. The tensile bond shall be tested in accordance with ASTM D 4541-02. The frequency of testing shall be one test every 500 ft² or once per shift, whichever is less. The test location will be as directed by the Q.A.I. The specified tensile force shall be applied to the TSC and removed. If the test does not reveal a failure of the TSC, the tensile bond shall be considered acceptable. If the test reveals a failure of the TSC, the coating shall be rejected.

A bend test as described in SSPC-CS 23.00/AWS C2.23M/NACE No. 12. Section 6 shall be conducted at the beginning of each shift. If the bend test fails, the Contractor shall take corrective action and perform another test.

The results of the tensile bond test and bend test shall be documented in the JCR.

The TSC shall have a uniform appearance, free from blistering, cracks, loose particles, or exposed steel substrate when examined with 10-X magnification.

Application: The TSC shall be applied by the arc spray process. Thermal spray equipment shall be set up, calibrated, and operated per the manufacturer's instructions and technical manuals or the Thermal Spray Coating Applicator's (TSCA) refinement thereof and as validated by the Job Reference Standard (JRS).

The Q.C.I. shall measure and record in the JCR the ambient temperature, surface temperature, relative humidity and dew point near the pieces being coated immediately prior to application. The substrate shall be 5° F above the dew point at the time of application. The Q.A.I. shall be given adequate notice in order to witness the measurement of the environmental conditions.

The substrate shall be coated with a 1 mil to 2 mil flash/primer coat followed by several thin, overlapping passes to build the required DFT. Top flanges of beams requiring shear connectors shall receive a flash/primer coat only. If shear connectors are shop applied, they shall be applied prior to the TSC.

Seal Coat and Top Coat Application: The seal coat shall be applied within eight hours of the TSC application. The topcoat shall be applied after the seal coat has cured. The surfaces shall be free from contaminants immediately prior to application of the seal coat and topcoat.

The seal coat and topcoat shall be applied in accordance with SSPC-PA 1, "Shop, Field and Maintenance Painting", and the coating manufacturer's published recommendations.

Areas to be top coated will be designated on the plans or specifications.

Coating thickness shall be measured in accordance with SSPC-PA 2. The DFT shall conform to the requirements of the manufacturer's published data sheet. For the measurement of coating thickness, each piece coated will be considered a separate structure.

Repairs: Damage to TSC shall be repaired by re-blasting the damaged area and re-applying TSC in accordance with this Specification.

506.03.5 Fusion Bonded Epoxy Construction Requirements: The FBE shall be applied to all surface areas indicated on the plans. Steel pipe pile shall be coated in accordance with ASTM A 972/A 972M as amended herein. Steel H piles and sheet piling shall be coated in accordance with ASTM A 950/A 950M as amended herein. Epoxy-coated steel reinforcing bars shall be coated in accordance with AASHTO M 284M/M 284 (ASTM A 775/A 775M). All other steel products shall be coated in accordance with the plans and/or the direction of the Resident.

Fusion bonded coatings shall be applied in facilities with a minimum of five years documented experience of satisfactory performance. The applicator shall provide documentation (including Quality Control records) and references of successful application that are acceptable to the Resident.

Surface Preparation: All butt welds shall be ground flush prior to abrasive blast cleaning. The steel shall be abrasive blast cleaned to the requirements of SSPC SP10/NACE No.2, Near White Metal Blast. SSPC VIS. 1 shall be used to determine acceptable cleanliness. The Q.C.I. and Q.A.I. shall evaluate the first piece using VIS 1 as a comparator. No further blast cleaning shall be done until the Q.C.I. and Q.A.I. agree upon the acceptable Job Standard for cleanliness. If more than one method of abrasive blast cleaning is used (e.g. centrifugal blast and compressed air), the acceptable Job Standard shall be established for each method.

Application: The FBE powder shall be applied and cured in accordance with the applicable ASTM Standard and the manufacturer's published data sheet.

The DFT of the coating shall average between 10 mils and 18 mils for embedded work or coating exposed to atmosphere. A minimum thickness of 18 mils is required for piles or other items that will be subjected immersion service. The DFT shall be measured in accordance with SSPC PA 2 except that three spots shall be measured on each piece. If

the average of three measurements per spot is less than the specified minimum, the piece shall be measured at one meter (3 feet) intervals along the length of the piece.

Inspection: The DFT shall be measured using a fixed-probe or magnetic pull-off gauge that is calibrated and operated in accordance with SSPC PA 2. The testing procedure and reporting shall be in accordance with ASTM G 12. The frequency of testing shall be each piece coated unless a lesser frequency of testing is directed by the Resident.

Holiday detection shall be performed in accordance with the applicable AASHTO or ASTM Standard.

Holiday repairs shall be done in accordance with the applicable AASHTO or ASTM Standards and the manufacturer's published data sheet. If there is a conflict between the Standard and manufacturer's published data sheet, the Resident shall determine which shall apply.

506.03.6 Dry Powder (Polyester) Coating Construction Requirements: The requirements for dry powder (polyester) coating shall be the same as for FBE.

506.03.7 Hazardous Material Containment Construction Requirements: All Contractors and subcontractors who shall be involved with the containment of hazardous material shall have SSPC-QP2 certification prior to bid opening and shall keep this certification current throughout the duration of the Contract until final acceptance of the work.

The Contractor shall prepare an Environmental Protection Plan that shall include the following:

- *Regulated Area Monitoring and Maintenance.* A written program for establishing and maintaining regulated areas around activities which could generate airborne emissions of lead or other toxic metals.
- *High Volume Ambient Air Monitoring.* The Contractor shall contract with an independent environmental monitoring firm to conduct high volume ambient air monitoring to assure compliance with National Ambient Air Quality Standards (NAAQS). The Contractor shall have the monitoring begin at least 24 hours prior to initial abrasive blasting, for a baseline. Procedures for the monitoring which confirm that the monitoring equipment is properly calibrated, sited, and operated; filters are properly handled and transported; the laboratory analysis is performed correctly; and that all monitoring, calculations, documentation, and forms will be provided directly to the Department by the monitoring firm, with copies to the Contractor. Prior to any sampling, the Contractor shall clearly identify proposed monitor locations, including what corrective action will be implemented immediately in the event of unacceptable results.

- *Ground (Soil) Evaluations.* A written program for inspection of the ground and soil prior to commencement of the project and upon completion to assure that the ground is not impacted by project activities. This shall be carried out at the bridge site and at the area(s) used to store equipment and waste. The Contractor shall contract with an independent environmental monitoring firm, staffed with a Maine Certified Geologist, to conduct sampling and analysis of the soil to determine whether it has been impacted by project activities. All monitoring, calculations, documentation, and forms will be provided directly to the Resident by the monitoring firm, with copies to the Contractor. Clearly identify proposed sampling locations. Identify the corrective action that will be taken in the event of unacceptable results.
- *Remediation of Ground (Soil).* Include provisions in the Plan that in the event post-project inspection, sampling or analysis show unacceptable results, the Contractor will undertake the necessary clean up or remediation of the ground (soil), as appropriate as to satisfy all necessary regulatory agencies. Cleanup is incidental to related contract items. There will be no additional payment made by the Department.
- *Final Cleaning/Clearance Evaluations.* A written program identifying the procedures and methods that will be used to conduct and document final project clean up, and final visual cleanliness inspections and evaluations. This process is to assure that the project area and surrounding equipment, structures, soil, water, and sediment along the resource have not been negatively impacted by project activities.
- *Laboratory Qualifications.* Provide the name of the laboratory and/or firm that will be used for regulated area exposure monitoring, worker protection, high volume ambient air monitoring and/or soils sampling and analysis, as required. Provide documentation that this firm is American Industrial Hygiene Association (AIHA) accredited for metals analysis, and has successfully participated (previous 12 months at a minimum) in the AIHA ELPAT program.
- *Worker Protection Compliance Program.* A written project-specific compliance program, prepared under the direction of, and signed and sealed by, a Certified Industrial Hygienist (CIH), for the protection of workers from lead, in accordance with 29 CFR 1926.62, and other toxic metals in the paint. Include the name, experience, and qualifications of the competent person who will be making routine inspections of project activities to ensure compliance with the program. If Subcontractors are operating under a separate program, include the program with the submittals.

The Contractor shall provide a Containment Plan designed, signed and sealed by a Professional Engineer, licensed in the State of Maine. All surface preparation and

painting shall be performed in an approved containment system, conforming to the latest SSPC Technology Guide 6, *Guide for Containing Debris Generated During Paint Removal Operations, for Blast Cleaning, Table A, Class 1A*. The floor of the containment shall meet A1-Rigid and as a minimum, the walls shall meet A2-Flexible. The containment shall be inspected by the same Professional Engineer, who stamped the containment drawings, for the proper installation of the containment prior to the start of blasting.

506.03.8 Hazardous Material Disposal Construction Requirements: The Contractor shall collect; store and dispose of all lead paint and related waste in compliance with all Federal and State laws and requirements. The following documents are incorporated into the Contract by reference and the Contractor shall provide the latest copies on site:

- SSPC-Guide 7, *Guide for the Disposal of Lead-Contaminated Surface Preparation Debris*.
- Maine Department of Environmental Protection's (DEP's) *Handbook for Hazardous Waste Generators*
- State of Maine Hazardous Waste Management Rules, 06-096 CMR Chapters 850-857

506.4 Method of Measurement

Steel coating shall be measured by the lump sum method, complete, and accepted. The limits shall be as shown on the plans or as described within the respective subsection.

Containment and pollution control measures will be measured for payment as one lump sum unit, consisting of all work previously described, completed, and accepted.

Disposal of hazardous or toxic materials will be measured for payment as one lump sum unit, consisting of all material satisfactorily disposed of in conformance with these specifications.

506.5 Basis of Payment

All work for Steel Coating will be paid for at the lump sum price for the respective item. Payment will be full compensation for all work and materials needed to complete the item; coating and cleaning materials, staging or accessing, testing, labor, surface preparation, cleaning, application, curing and repairs to coating.

Containment and pollution control will be paid for at the contract lump sum price, which price shall be full compensation for furnishing all materials, labor, equipment, and incidentals necessary for the satisfactory performance of the above work.

Disposal of hazardous or toxic materials will be paid at the contract lump sum price, which price shall be full compensation for all permits, tests, transportation, tipping fees, and incidentals necessary for the satisfactory performance of the above work.

| <u>Pay Item</u> | <u>Description</u> | <u>Pay Unit</u> |
|-----------------|---|-----------------|
| 506.17 | Surface Preparation of Existing Structural Steel | Lump Sum |
| 506.144 | Field Painting of Existing and New Structural Steel | Lump Sum |
| 506.18 | Containment and Pollution Control Measures | Lump Sum |
| 506.191 | Disposal of Special Waste or Hazardous Waste | Lump Sum |
| 506.9101 | Galvanizing (and top coating) | Lump Sum |
| 506.9102 | Zinc Rich Coating System (Shop Applied) | Lump Sum |
| 506.9103 | Zinc Rich Coating System (Field Applied) | Lump Sum |
| 506.9104 | Thermal Spray Coating (Shop Applied) | Lump Sum |
| 506.9105 | Thermal Spray Coating (Field Applied) | Lump Sum |
| 506.9106 | Fusion Bonded Epoxy Coating | Lump Sum |
| 506.9107 | Dry Powder (Polyester) Coating | Lump Sum |
| 506.9108 | Containment System and Pollution Control | Lump Sum |
| 506.9109 | Disposal of Hazardous or Toxic Material | Lump Sum |

SPECIAL PROVISION

SECTION 515

PROTECTIVE COATING FOR CONCRETE SURFACES

Subsection 515.03 is replaced with the following paragraph:

515.03 Surface Preparation

On surfaces to be treated, all voids shall be filled with mortar and the entire surface shall be dressed by dry rubbing to remove form marks and blemishes to present a neat appearance. The concrete shall remain dry for at least 48 hours before treatment and shall be free of laitance, oil, grease, dirt and dust. All traces of dust shall be removed immediately before applying the linseed oil mixture. The treatment shall not be done until at least 7 days after casting the concrete and completed at least 24 hours before the treated portion is opened to traffic.

SPECIAL PROVISION
SECTION 524
TEMPORARY STRUCTURAL SUPPORTS
(Protective Shield)

The following subsection is in addition to the standard specifications.

Description:

This work shall consist of all labor, equipment, and materials required to protect traffic on Interstate 395 from demolition work, forming, and placement of concrete during construction of this project. The protective shield shall be installed under each of the overhangs, of the two center spans of both the northbound and southbound structures.

Existing Shielding In-place:

Following aborted wearing surface replacement projects, protective shielding had been installed between stringers over Interstate 395. This shielding may be used during construction but shall be removed and retained by the Department following construction. Any shielding to be retained by the Department shall be transported by the Contractor to the Bridge Maintenance Yard in Carmel, ME. Prior to transporting, the Contractor shall coordinate delivery with the Department.

Construction Requirements:

The protective shield shall be designed for safely supporting all construction and dead loads, but not less than 100 pounds per square foot. Protective shield shall be stiff enough to limit deflection to 1/2 inch under maximum loads and to be tightly sealed at all joints. The protective shield shall be placed on the tops of the bottom flanges of the steel girders, with edges and laps made tight to protect the I-395 motorists from dust, debris and falling objects. The protective shield shall be designed by a Licensed Professional Engineer of the State of Maine. Prior to the start of work, the Contractor shall submit to the Resident a set of plans indicating the proposed method to protect traffic below, sizes and dimension of material used and indicating connections and fasteners used.

The Protective shield shall be designed to safely support all anticipated loads from small pieces of concrete falling from the existing deck during saw cutting or initial handling operations while the existing deck is being removed, and to protect against small tools falling onto traffic below.

Replacement of Structural Steel:

The Contractor may temporarily remove portions of shielding interfering with the removal and replacement of structural steel on the southbound bridge. In areas where shielding is removed, any work over the roadway below is prohibited except during roadway closures allowed in Section 652 of the Special Provisions.

Protective Shield Erection and Removal

No portion of the protective shield installed over a roadway shall project below a plane connecting the bottoms of the bottom flanges of the steel stringers. During demolition operations, the protective shield shall be covered with sheet plastic made tight at edges and laps to prevent water used in the saw cutting operation from falling onto the facilities under the bridge.

The protective shield on existing and new structures shall extend horizontally three feet beyond the fascia lines and vertically to a point one foot minimum above the top of new concrete barrier. Shielding shall extend a minimum of 5 feet beyond the face of the guardrail on I-395.

Shielding shall be approved and installed prior to the start of any demolition work and shall remain in position during all demolition work. Shielding shall also be approved and installed prior to the start of any deck forming and shall remain in position during all deck work. The shielding shall be relocated or removed only as directed by the Resident.

Method of Measurement:

The protective shield shall be measured for payment as one lump sum unit, complete in place and accepted.

Basis of Payment:

Payment shall include design, labor, and equipment, furnishing all material necessary to complete the work and as directed by the Resident as well as removal following construction. Payment shall also include delivery of Department-retained shielding to Carmel Bridge Maintenance Yard. No separate payment shall be made for any removal and re-installation of protective shielding required for structural steel replacement but shall be considered incidental to this item.

Pay Item

524.40 Protective Shield

Pay Unit

Lump Sum

SPECIAL PROVISION
SECTION 526
CONCRETE BARRIER
(Temporary Concrete Barrier)

Materials

Temporary concrete barriers must be connected using a 1-1/8 inch diameter rod, with a washer and cotter pin on the bottom. The contractor has the option to use a nut and washer connection as shown on the Standard Detail 526(02) or the top of the rod may be hooked over the top connector. The connecting pin must be smooth and not deformed. Reinforcing bar will not be permitted.

SPECIAL PROVISION

SECTION 527

ENERGY ABSORBING UNIT

(Work Zone Crash Cushion)

527.01 Description

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

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

The exposed end of the concrete barrier within 30 feet of the I-95 Ramp travel lanes shall be protected at all times. Barrier shall not be reset until after the work zone crash cushion(s) has been set to protect the exposed end of the barrier.

527.02 Materials

The following paragraph is added:

Only work zone crash cushions meeting the NCHRP Report 350 TL-3 crash test requirements may be used on the I-95 Ramps and local roadways with posted speeds of 45 MPH or greater. Work zone crash cushions meeting the NCHRP Report 350 TL-2 crash test requirements may be used on local roadways with posted speeds of 40 MPH or less. The Contractor shall provide the Resident with documentation of the proposed work zone crash cushion's NCHRP Report 350 crash test results prior to installation at the jobsite.

527.03 Construction Requirements

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

The design speeds for work zone crash cushions shall be 35 mph for local roads and 45 mph for I-95 Ramp roadways unless otherwise noted on the Plans.

527.05 Basis of Payment

Payment will be made under:

| <u>Pay Item</u> | | <u>Pay Unit</u> |
|-----------------|--------------------------|-----------------|
| 527.34 | Work Zone Crash Cushions | Unit |

SPECIAL PROVISION
SECTION 535
Precast, Prestressed Concrete Superstructure

Section 535, Precast, Prestressed Concrete Superstructure of the Standard Specifications is amended as follows:

535.07 Erection of Precast Deck Panels: Paragraph 2, is revised to read as follows:

After precast deck panels have been erected, adjusted and sealed, the void between the top of the girder and the bottom of the panels shall be filled with a non-shrink, flowable cementitious grout or concrete with a design compressive strength of not less than that required for the deck concrete above. This is the material that is referred to in Standard details 502(09) and 502(10) as “non-shrink mortar” and shall not be placed any higher than ½ inch above the bottom of the precast deck panels. The coarse aggregate shall be the maximum size practical for those areas where the gap between the top flange and the bottom of the deck panel exceeds ¾ inch. For those areas where the gap between top flange and the bottom of the deck panel is less than ¾ inch then the grout shall consist of one of those products on the Maine Department of Transportation’s list of pre-qualified grout materials for keyways, and the grout shall be mixed placed and cured in accordance with the manufacturer’s published recommendations. Vent holes shall be provided at 3 ft intervals to prevent air lock. Once the grout has cured to sufficient strength any screw type leveling jacks within the deck panels shall be turned back to distribute the dead load of the panel to the grout.

SPECIAL PROVISION
SECTION 602
FLOWABLE CONCRETE FILL

Description This work shall consist of providing and placing flowable concrete fill at the locations designated on the plans or as directed by the Resident.

MATERIALS

Materials shall conform to the requirements specified in the following Subsections of Division 700 — Materials:

| | |
|---------------------------|-----------------------|
| Portland Cement | 701.01 |
| Water | 701.02 |
| Air Entraining Admixtures | 701.03 |
| Fine Aggregate | 703.01 |
| FlyAsh | 701.10 |
| Water Reducing Admixtures | 701.04 |
| Accelerating Admixtures | AASHTO M-194 Type “C” |

CONSTRUCTION REQUIREMENTS

Composition and Proportioning Flowable concrete fill shall be composed of a homogeneous mixture of Portland cement and/or pozzolans, fine aggregate, water, and chemical admixtures proportioned according to these specifications.

The flowable concrete fill shall be proportioned to produce a 28-day compressive strength of 300 psi.

The water cement ratio for flowable concrete fill shall not be high enough to cause segregation of the mix.

Air content of 5 to 15% is the target. Higher air contents may be acceptable but will increase set time. All flowable concrete fill shall be air entrained by the addition of an air entraining admixture or other chemical admixtures.

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

- A. Target water cement ratio
- B. Target strength
- C. Target air content

Quality Control Process control measurements of air content, mix temperature, and slump shall be performed on the portion or portions of flowable concrete fill batches delivered to the site. At least one set of measurements for air content, temperature, and slump of flowable concrete fill mix shall be performed per placement or per day, whichever is less frequent. Test cylinders will not be required.

Air content shall be measured following the requirements of AASHTO T152 utilizing Type B equipment.

Slump shall be measured by Modified Slump Test as described below:

Apparatus:

Scoop, measuring tape, flat edge, 75 mm x 150 mm cylinder mold open at both ends, and a flat non-absorbent surface.

Procedure:

1. Set cylinder upright on flat non-absorbent surface.
2. Scoop representative sample of flowable concrete fill.
3. Fill the cylinder, with the sample in one lift without tamping. Strike off the top with the flat edge to form a level surface.
4. Clear any residue from around the bottom of the cylinder.
5. During a count of three seconds, lift the cylinder straight up allowing the sample to spread on the flat surface.
6. Measure the spread diameter to the nearest 15 mm [$\frac{5}{8}$ in]. A spread of 225-350 mm [9 to 14 in] is considered flowable.

Batching Measuring and batching of materials shall be performed at an approved batching plant, either commercial or otherwise.

Mixing and Delivery The Contractor shall provide a Certificate of Compliance as described in Standard Specification 502 Structural Concrete, Section 502.0501 Quality Control METHOD C for each truckload of flowable concrete fill.

Cold Weather Placement The requirements of Standard Specification 502 Structural Concrete, Section 502.08 Cold Weather Concrete, amended as follows, apply.

The Cold Weather Temperature Table does not apply to flowable concrete fill. The minimum concrete temperature as placed shall be 4.40°C [40 °F]. No housing framework or heating will be required when placed under approved cold weather conditions.

Forms and Containment Berms When necessary to contain flowable concrete fill within a defined area, berms shall be constructed of compacted granular material

Placing Flowable Concrete Fill Flowable concrete fill shall not be placed until forms and/or containment berms have been checked and approved. Flowable concrete fill shall

not be placed under water. The method and sequence of placing flowable concrete fill shall be approved by the Department before any flowable concrete fill is placed.

All flowable concrete fill shall be placed before it has taken its initial set. Flow able concrete fill shall be placed in such a manner as to avoid separation and segregation of the mix.

Consolidation, tamping, and vibration is not required or allowed.

Flowable concrete fill shall be discharged directly from the truck into the space to be filled. The drop height of the flowable concrete fill shall be as low as practicable. Flow-able concrete fill shall not flow down the vertical face of a trench causing erosion of the trench face.

Finishing and curing of flowable concrete fill is not required.

Flowable concrete fill placed will not be opened to traffic or covered with structural concrete or pavement for a minimum of 24 hours.

Method of Measurement Flowable concrete fill satisfactorily placed and accepted will be measured by the cubic yard, in accordance with the pay limits established, if such limits have been established, If the Contractor elects to omit forms, or berms, then any excavation or flowable concrete fill placed beyond the pay limits indicated on the Plans shall not be paid for, but shall be at the Contractor's expense. In the absence of pay limits, the Resident may use discretion to accept the delivered quantity as the measurement for payment.

Basis of Payment The accepted work done under flowable concrete fill will be paid for at the contract unit price per cubic yard. Payment will be full compensation for furnishing and placing flowable concrete fill, including all forms, berms, granular material, pumping, dewatering and necessary incidentals.

Payment will be made under:

Pay Item

602.30 Flowable Concrete Fill

Pay Unit

Cubic Yard

SPECIAL PROVISION
SECTION 606
GUARDRAIL

606.01 Description This work shall consist of furnishing and installing guardrail components in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans or as established. The types of guardrail are designated as follows:

Type 3-Galvanized steel "w" beam, wood posts or galvanized steel posts.

Type 3a-Galvanized steel "w" beam, wood posts, wood or composite offset blocks.

Type 3aa-Corrosion resistant steel "w" beam, wood posts, wood or composite offset blocks.

Type 3b-Galvanized steel "w" beam, galvanized steel posts, galvanized steel offset blocks.

Type 3c-Galvanized steel "w" beam, wood posts or galvanized steel posts, wood or composite offset blocks.

Type 3d-Galvanized steel "w" beam, galvanized steel posts, wood or composite offset blocks.

Thrie Beam-Galvanized steel thrie beam, wood posts or galvanized steel posts, wood or composite offset blocks.

Median barriers shall consist of two beams of the above types, mounted on single posts. Except for thrie beam, median barriers may include rub rails when called for.

Bridge mounted guardrail shall consist of furnishing all labor, materials, and equipment necessary to install guardrail as shown on the plans. This work shall also include drilling for and installation of offset blocks if specified, and incidental hardware necessary for satisfactory completion of the work.

Remove and Reset and Remove, Modify, and Reset guardrail shall consist of removing the existing designated guardrail and resetting in a new location as shown on the plans or directed by the Resident. Remove, Modify, and Reset guardrail and Modify guardrail include the following guardrail modifications: Removing plate washers at all posts, except at anchorage assemblies as noted on the Standard Details, Adding offset blocks, and other modifications as listed in the Construction Notes or General Notes. Modifications shall conform to the guardrail Standard Details.

Bridge Connection shall consist of the installation and attachment of beam guardrail to the existing bridge. This work shall consist of constructing a concrete end post or modifying an existing endpost as required, furnishing, and installing a terminal connector, necessary hardware, and incidentals required to complete the work as shown on the plans. Bridge Transition shall consist of a bridge connection and furnishing and installing guardrail components as shown in the Standard Details.

606.02 Materials Materials shall meet the requirements specified in the following Sections of Division 700 - Materials:

| | |
|---------------------|--------|
| Timber Preservative | 708.05 |
| Metal Beam Rail | 710.04 |
| Guardrail Posts | 710.07 |
| Guardrail Hardware | 710.08 |

Guardrail components shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report.

Posts for underdrain delineators shall be "U" channel steel, 2.44m [8 ft] long, 3.72 kg/m [2 ½ lb/ft] minimum and have 9.5 mm [3/8 in] round holes, 25 mm [1 in] center to center for a minimum distance of 610 mm [2 ft] from the top of the post.

Reflectorized Flexible Guardrail Markers shall be mounted on all guardrails. A marker shall be mounted onto guardrail posts at the flared end treatment's terminal and its tangent point, both at the leading and trailing ends of each run of guardrail. The marker's flexible posts shall be grey with either silver-white or yellow reflectors (to match the edge line striping) at the tangents, red at leading ends, and green at trailing ends. Whenever the end treatment is not flared, markers will only be required at the end treatment's terminal. These shall be red or green as appropriate. Markers shall be installed on the protected side of guardrail posts unless otherwise approved by the Resident. Reflectorized flexible guardrail markers shall be from the Maine DOT's Approved Product List of Guardrail Material. The marker shall be grey, flexible, durable, and of a non-discoloring material to which 75 mm [3 in] by 225 mm [9 in] reflectors shall be applied, and capable of recovering from repeated impacts. Reflective material shall meet the requirements of Section 719.01 for ASTM D 4956 Type III reflective sheeting. The marker shall be secured to the guardrail post with two fasteners, as shown in the Standard Details.

Reflectorized beam guardrail ("butterfly"-type) delineators shall be mounted on all "w"-beam guardrail. The delineators shall be mounted within the guardrail beam at guardrail posts. Delineators shall be fabricated from high-impact, ultraviolet & weather resistant thermoplastic. Reflectorized beam guardrail delineators shall be placed at approximately 20 m [62.5 ft] intervals or every tenth post on tangents and at approximately 10 m [31.25 ft] intervals or every fifth post on curves. Exact locations of the delineators shall be as directed by the Resident. On divided highways, the left hand delineators shall be yellow and the right hand delineators shall be silver/white. On two directional highways, the right hand side shall be silver/white and no reflectorized delineator used on the left. All reflectors shall have reflective sheeting applied to only one side of the delineator facing the direction of traffic as shown in the Standard Detail 606(07). Reflectorized sheeting for guardrail delineators shall meet the requirements of Section 719.01.

Single wood post shall be of cedar, white oak, or tamarack, well seasoned, straight, and sound and have been cut from live trees. The outer and inner bark shall be removed and all knots trimmed flush with the surface of the post. Posts shall be uniform taper and free of kinks and bends.

Single steel post shall conform to the requirements of Section 710.07 b.

Single steel pipe post shall be galvanized, seamless steel pipe conforming to the requirements of ASTM A120, Schedule No. 40, Standard Weight.

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

The Guardrail 350 Flared Terminal shall be a terminal with a 1.2 m [4 ft] offset as shown in the Manufacturer's installation instructions.

Existing materials damaged or lost during adjusting, removing and resetting, or removing, modifying, and resetting, shall be replaced by the Contractor without additional compensation. Existing guardrail posts and guardrail beams found to be unfit for reuse shall be replaced when directed by the Resident.

606.03 Posts Posts for guardrail shall be set plumb in holes or they may be driven if suitable driving equipment is used to prevent battering and distorting the post. When posts are driven through pavement, the damaged area around the post shall be repaired with approved bituminous patching. Damage to lighting and signal conduit and conductors shall be repaired by the Contractor.

When set in holes, posts shall be on a stable foundation and the space around the posts, backfilled in layers with suitable material, thoroughly tamped.

The reflectorized flexible guardrail markers shall be set plumb with the reflective surface facing the oncoming traffic. Markers shall be installed on the protected side of guardrail posts. Markers, which become bent or otherwise damaged, shall be removed and replaced with new markers.

Single wood posts shall be set plumb in holes and backfilled in layers with suitable material, thoroughly tamped. The Resident will designate the elevation and shape of the top. The posts, that are not pressure treated, shall be painted two coats of good quality oil base exterior house paint.

Single steel posts shall be set plumb in holes as specified for single wood posts or they may be driven if suitable driving equipment is used to prevent battering and distorting the post.

Additional bolt holes required in existing posts shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.04 Rails Brackets and fittings shall be placed and fastened as shown on the plans. Rail beams shall be erected and aligned to provide a smooth, continuous barrier. Beams shall be lapped with the exposed end away from approaching traffic.

End assemblies shall be installed as shown on the plans and shall be securely attached to the rail section and end post.

All bolts shall be of sufficient length to extend beyond the nuts but not more than 13 mm [½ in]. Nuts shall be drawn tight.

Additional bolt holes required in existing beams shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.045 Offset Blocks The same offset block material is to be provided for the entire project unless otherwise specified.

606.05 Shoulder Widening At designated locations the existing shoulder of the roadway shall be widened as shown on the plans. All grading, paving, seeding, and other necessary work shall be in accordance with the Specifications for the type work being done.

606.06 Mail Box Post Single wood post shall be installed at the designated location for the support of the mailbox. The multiple mailbox assemblies shall be installed at the designated location in accordance with the Standard Details and as recommended by the Manufacturer. Attachment of the mailbox to the post will be the responsibility of the home or business owner.

606.07 Abraded Surfaces All galvanized surfaces of new guardrail and posts, which have been abraded so that the base metal is exposed, and the threaded portions of all fittings and fasteners and cut ends of bolts shall be cleaned and painted with two coats of approved rust resistant paint.

606.08 Method of Measurement Guardrail will be measured by the meter [linear foot] from center to center of end posts along the gradient of the rail except where end connections are made to masonry or steel structures, in which case measurement will be as shown on the plans.

Terminal section, low volume end, NCHRP 350 end treatments, reflectorized flexible guardrail marker, terminal end, bridge transition, bridge connection, multiple mailbox post, and single post will be measured by each unit of the kind specified and installed.

Widened shoulder will be measured as a unit of grading within the limits shown on the plans.

Excavation in solid rock for placement of posts will be measured by the cubic meter [cubic yard] determined from the actual depth of the hole and a hypothetical circle diameter of 600 mm [2 ft].

606.09 Basis of Payment The accepted quantities of guardrail will be paid for at the contract unit price per meter [linear foot] for the type specified, complete in place. Reflectorized beam guardrail (“butterfly”-type) delineators will not be paid for directly, but will be considered incidental to guardrail items. Terminal section, buffer end, NCHRP 350 end treatment, bridge connection, single post and reflectorized flexible guardrail markers will be paid for at the contract unit price each for the kind specified complete in place.

NCHRP 350 end treatments and low volume guardrail ends will be paid for at the contract price each, complete in place which price shall be full payment for furnishing and installing all components including the terminal section, posts, offset blocks, "w" beam, cable foundation posts, plates and for all incidentals necessary to complete the installation within the limits as shown on the Standard Details or the Manufacturer’s installation instructions. Each end treatment will be clearly marked with the manufacturers name and model number to facilitate any future needed repair. Such payment shall also be full compensation for furnishing all material, excavating, backfilling holes, assembling, and all incidentals necessary to complete the work, except that for excavation for posts or anchorages in solid ledge rock, payment will be made under Pay Item 206.07. Type III Retroreflective Adhesive Sheeting

shall be applied to the approach buffer end sections and sized to substantially cover the end section. On all roadways, the ends shall be marked with alternating black and retroreflective yellow stripes. The stripes shall be 75 mm [3 in] wide and sloped down at an angle of 45 degrees toward the side on which traffic is to pass the end section. Guardrail 350 flared terminal shall also include a set of installation drawings supplied to the Resident.

Anchorage to bridge end posts will be part of the bridge work. Connections thereto will be considered included in the unit bid price for guardrail.

Guardrail to be placed on a radius of curvature of 45 m [150 ft] or less will be paid for under the designated radius pay item for the type guardrail being placed.

Widened shoulder will be paid for at the contract unit price each complete in place and will be full compensation for furnishing and placing, grading and compaction of aggregate subbase and any required fill material.

Adjust guardrail will be paid for at the contract unit price per meter and will be full compensation for adjusting to grade. Payment shall also include adjusting terminal end treatments where required.

Modify guardrail will be paid for at the contract unit price per meter and will be full compensation for furnishing and installing offset blocks, additional posts, and other specified modifications; removing, modifying, installing, and adjusting to grade existing posts and beams; removing plate washers and backup plates, and all incidentals necessary to complete the work. Payment shall also include removing and resetting terminal ends where required.

Remove and Reset guardrail will be paid for at the contract unit price per meter and will be full compensation for removing, transporting, storing, reassembling all parts, necessary cutting, furnishing new parts when necessary, reinstalling at the new location, and all other incidentals necessary to complete the work. Payment shall also include removing and resetting terminal ends when required. No payment will be made for guardrail removed, but not reset and all costs for such removal shall be considered incidental to the various contract pay items.

Remove, Modify, and Reset guardrail will be paid for at the contract unit price per meter and will be full compensation for the requirements listed in Modify guardrail and Remove and Reset guardrail.

Bridge Connections will be paid for at the contract unit price each. Payment shall include, attaching the connection to the endpost including furnishing and placing concrete and reinforcing steel necessary to construct new endposts if required, furnishing and installing the terminal connector, and all miscellaneous hardware, labor, equipment, and incidentals necessary to complete the work.

Bridge Transitions will be paid for at the contract unit price each. Payment shall include furnishing and installing the thrie beam or "w"-beam terminal connector, doubled beam section, and transition section, where called for, posts, hardware, precast concrete transition curb, and any other necessary materials and labor, including the bridge connection as stated in the previous paragraph.

Payment will be made under:

| <u>Pay Item</u> | <u>Pay Unit</u> | |
|-----------------|--|---------------------|
| 606.15 | Guardrail Type 3a-Single Rail | meter [Linear Foot] |
| 606.151 | Guardrail Type 3aa-Single Rail | meter [Linear Foot] |
| 606.17 | Guardrail Type 3b-Single Rail | meter [Linear Foot] |
| 606.1721 | Bridge Transition - Type I | Each |
| 606.1722 | Bridge Transition - Type II | Each |
| 606.1731 | Bridge Connection - Type I | Each |
| 606.1732 | Bridge Connection - Type II | Each |
| 606.178 | Guardrail Beam | meter [Linear foot] |
| 606.18 | Guardrail Type 3b - Double Rail | meter [Linear foot] |
| 606.19 | Guardrail Type 3a - 4.5 m [15 ft] radius and less | meter [Linear Foot] |
| 606.191 | Guardrail Type 3aa - 4.5 m [15 ft] radius and less | meter [Linear Foot] |
| 606.20 | Guardrail Type 3a - over 4.5 m [15 ft] radius | meter [Linear Foot] |
| 606.201 | Guardrail Type 3aa - over 4.5 m [15 ft] radius | meter [Linear Foot] |
| 606.21 | Guardrail Type 3b - 4.5 m [15 ft] radius and less | meter [Linear Foot] |
| 606.22 | Guardrail Type 3b - over 4.5 m [15 ft] radius | meter [Linear Foot] |
| 606.23 | Guardrail Type 3c - Single Rail | meter [Linear Foot] |
| 606.2301 | Guardrail Type 3c - Double Rail | meter [Linear Foot] |
| 606.231 | Guardrail Type 3c - 4.5 m [15 ft] radius and less | meter [Linear Foot] |
| 606.232 | Guardrail Type 3c - over 4.5 m [15 ft] radius | meter [Linear Foot] |
| 606.24 | Guardrail Type 3d - Single Rail | meter [Linear Foot] |
| 606.2401 | Guardrail Type 3d - Double Rail | meter [Linear Foot] |
| 606.241 | Guardrail Type 3d - 4.5 m [15 ft] radius and less | meter [Linear Foot] |
| 606.242 | Guardrail Type 3d - over 4.5 m [15 feet] radius | meter [Linear Foot] |
| 606.25 | Terminal Connector | Each |
| 606.257 | Terminal Connector - Thrie Beam | Each |
| 606.265 | Terminal End-Single Rail - Galvanized Steel | Each |
| 606.266 | Terminal End-Single Rail - Corrosion Resistant Steel | Each |
| 606.275 | Terminal End-Double Rail - Galvanized Steel | Each |
| 606.276 | Terminal End-Double Rail - Corrosion Resistant Steel | Each |
| 606.353 | Reflectorized Flexible Guardrail Marker | Each |
| 606.354 | Remove and Reset Reflectorized Flexible Guardrail Marker | Each |
| 606.356 | Underdrain Delineator Post | Each |
| 606.358 | Guardrail, Modify, Type 3b to 3c | meter [Linear Foot] |
| 606.3581 | Guardrail, Modify Existing to Type 3d | meter [Linear Foot] |
| 606.362 | Guardrail, Adjust | meter [Linear Foot] |
| 606.365 | Guardrail, Remove, Modify, and Reset, Type 3b to 3c | meter [Linear Foot] |
| 606.3651 | Guardrail, Remove, Modify, and Reset Existing to Type 3d | meter [Linear Foot] |
| 606.366 | Guardrail, Removed and Reset, Type 3c | meter [Linear Foot] |
| 606.367 | Replace Unusable Existing Guardrail Posts | Each |
| 606.47 | Single Wood Post | Each |
| 606.48 | Single Galvanized Steel Post | Each |
| 606.50 | Single Steel Pipe Post | Each |

| | | |
|---------|--|---------------------|
| 606.51 | Multiple Mailbox Support | Each |
| 606.55 | Guardrail Type 3 - Single Rail | meter [Linear Foot] |
| 606.551 | Guardrail Type 3 - Single Rail with Rub Rail | meter [Linear Foot] |
| 606.56 | Guardrail Type 3 - Double Rail | meter [Linear Foot] |
| 606.561 | Guardrail Type 3 - Double Rail with Rub Rail | meter [Linear Foot] |
| 606.568 | Guardrail, Modify Type 3c -Double Rail | meter [Linear Foot] |
| 606.59 | Guardrail Type 3 - 4.5 m [15 ft] radius and less | meter [Linear Foot] |
| 606.60 | Guardrail Type 3 - over 4.5 m [15 ft] radius | meter [Linear Foot] |
| 606.63 | Thrie Beam Rail Beam | meter [Linear Foot] |
| 606.64 | Guardrail Thrie Beam - Double Rail | meter [Linear Foot] |
| 606.65 | Guardrail Thrie Beam - Single Rail | meter [Linear Foot] |
| 606.66 | Terminal End Thrie Beam | Each |
| 606.70 | Transition Section - Thrie Beam | Each |
| 606.71 | Guardrail Thrie Beam - 4.5 m [15 ft] radius and less | meter [Linear Foot] |
| 606.72 | Guardrail Thrie Beam - over 4.5 m [15 ft] radius | meter [Linear Foot] |
| 606.73 | Guardrail Thrie Beam - Single Rail Bridge Mounted | meter [Linear Foot] |
| 606.74 | Guardrail Type 3 - Single Rail Bridge Mounted | meter [Linear Foot] |
| 606.753 | Widen Shoulder for Low Volume Guardrail End - Type 3 | Each |
| 606.754 | Widen Shoulder for Guardrail 350 Flared Terminal | Each |
| 606.78 | Low Volume Guardrail End - Type 3 | Each |
| 606.79 | Guardrail 350 Flared Terminal | Each |

SPECIAL PROVISION
SECTION 607
Screening Fence

Description. This work shall consist of furnishing, installing and maintaining, adjusting a 4' tall privacy screen located on top of the temporary concrete barrier used on the bridge and 4 ft. over existing bridge rail extending down to the bridge curb. The privacy screen shall be used on the temporary concrete barrier a minimum of 150' beyond the limits of the bridge on both ends of the bridge. The purpose of the privacy screen is to block the driver's view of the construction area. The gap in the privacy screen at the joints between the temporary concrete barriers shall be kept to a minimum. The privacy screen shall have adequate strength and a solid connection to the temporary concrete barrier.

Method of Measurement. Screening fence shall be measured for payment per linear foot.

Basis of Payment. The accepted quantity of screening fence will be paid for at the contract unit price of linear foot, which payment will be full compensation for furnishing, installing, maintaining, adjusting, and including all labor, equipment, materials and incidentals necessary to complete the work, accepted in place.

Payment will be made under:

Pay Item
607.421 Screening Fence

Pay Unit
Linear Feet

SPECIAL PROVISION
SECTION 627
(Pavement Markings)

Subsection 627.08 Removing Lines and Markings is amended as follows:

Burning and grinding to remove temporary markings from final pavement or from existing pavement not to be resurfaced **is** permitted.

SPECIAL PROVISION
SECTION 631
EQUIPMENT RENTAL
EQUIPMENT REQUIREMENTS

The following are added to Subsection 631.02 and 631.08

631.02 General

| <u>Equipment</u> | <u>Description</u> | <u>Minimum Size</u> |
|------------------|-----------------------------------|---------------------|
| Roller Pavement | –Self propelled steel drum type – | 40 in rolling width |

| | | |
|---|--|---------|
| Pavement Sweeper – engine driven rotary broom | | 7' wide |
|---|--|---------|

Small Pavement Grinder –engine driven rotary grinder capable of removing a minimum of 1 ½ inches of pavement

631.08 Basis of Payment

Payment will be made under:

| <u>Pay Item</u> | <u>Pay Unit</u> |
|--|-----------------|
| 631.16 Roller Pavement (inc. operator) | Hour |
| 631.211 Pavement Sweeper (inc. operator) | Hour |
| 631.212 Small Pavement Grinder (inc. operator) | Hour |

SPECIAL PROVISION
SECTION 639
ENGINEERING FACILITIES
(Telephone)

639.09 Telephone

Paragraph 1 is amended as follows:

The contractor shall provide **two** telephone lines and two telephones,....

Add-

In addition the contractor will supply one computer broadband connection and modem lease. The type of connection supplied will be contingent upon the availability of services (i.e. DSL or Cable Broadband). It shall be the contractor's option to provide dynamic or static IP addresses through the service. **The selected service will have a minimum downstream connection of 1.5 Mbps and 384 Kbps upstream.** The contractor shall be responsible for the installation charges and all reinstallation charges following suspended periods. Monthly service and maintenance charges shall be billed by the Internet Service Provider (ISP) directly to the contractor.

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Work Zone Traffic Control)

652.1 Description The following paragraphs are added:

The Contractor shall provide a Traffic Control Plan (TCP) to the Resident, in accordance with Subsection 105.7 of the Standard Specifications. The Contractor shall not commence work in the field until the Department approves the TCP. The Contractor shall provide a Traffic Control Supervisor who will be responsible for providing traffic control management in compliance with the contract and the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD), including supervision of personnel for the installation, inspection and maintenance of all traffic control devices. The Traffic Control Supervisor, or a qualified substitute, shall monitor traffic control details 7 days a week. Work Zone Traffic Control will also include construction -signing, channelization devices, temporary pavement markings and removal. Continuous monitoring of the work zone traffic control shall only be during the “B” portion of the work.

No disruptions to traffic will be allowed before the TCP is reviewed and approved by the Department. The Contractor should allow ten Business Days in his/her schedule for MaineDOT to review and approve the first submission of the TCP after the pre-construction traffic control meeting. If the initial TCP is rejected, the Contractor should allow five Business Days in his/her schedule for the Department to review and approve the second submission of the TCP after it is resubmitted.

In addition to other TCP Requirements enumerated herein, the TCP shall show all Construction Signs, Detour Route Signs, Speed Signs, Channelization Devices, Work Zone Crash Cushions, Temporary Traffic Signal, and Boater signs.

652.3.4 General Requirements

Temporary Centerline. A temporary centerline of reflectorized traffic paint shall be applied each day as new pavement is to be used by traffic. The temporary centerline shall conform to the standard marking patterns used for permanent markings and will be paid for under Pay Item 627.76. Failure to apply a temporary centerline daily will result in suspension of paving until temporary markings are applied to all previously placed pavement.

Southbound I-95

During construction on southbound I-95 the following ramps shall be closed:

- 1) Exit 182A will be closed during closure of the travel lane.
Exit 182A will be allowed to be open during closure of the passing lane.

Southbound Exit 182B will be allowed to remain open at all times.

The following tasks shall maintain a 10 foot horizontal clearance, with a minimum of 1 active lane, on I-395 under the bridge at all times:

1. Removal of the existing concrete deck
2. Installation of formwork
3. Removal of formwork

During removal of the existing damaged steel beam and diaphragms and installation of the new steel beam and diaphragms the Contractor shall be allowed to completely close I-395 East bound for a maximum of 7 hours at a time.

Weekdays (Monday through Friday):
10 PM to 5 AM

Weekends (Saturday and Sunday):
10 PM to 5 AM

The Contractor shall notify the Resident a minimum of 96 hours before the start of any work between the hours of 10 PM and 5 AM.

Northbound I-95

During construction on northbound I-95 the following ramps shall be closed:

- 1) Exit 182A shall remain open.
- 2) The eastbound I-395 Exit 1B shall be closed during all northbound construction. Traffic shall be detoured south on Odlin Road, east on Perry, north on Route 202, west on I-395 to I-95.

Portable - Changeable Message Boards.

Portable Changeable Message Boards shall be employed at the following locations during construction:

I 95 Northbound:

1. Located on ramp in the maintenance cross over near mile marker 179.

The message to be determined in the field by the Resident.

Portable - Changeable Message Board shall also be employed at the following location:

Route 2 / Hammond Street Extension Westbound:

Approximately 0.3 miles West of the Odlin Road intersection

I 95 Southbound:

1. Located at on ramp at the intersection of Main Street and I-395 Southbound.
The message on this board shall say Exit 1 closed use Exit 2 to I 95 South.

Brewer

2. The Maine DOT Permanent - Changeable Message Board located In
on I-395 Westbound shall be used:
The message on this board shall say Exit 1 closed use Exit 2 to I 95 South.

652.7 Method of Measurement This entire Subsection is revised to read:

Work Zone Traffic Control, including the Contractor's Traffic Control Plan, Traffic Control Supervisor, furnishing, installation and maintenance of traffic control devices, will be measured as one lump sum for all work authorized and performed.

652.8 Basis of Payment This entire Subsection is revised to read:

Work Zone Traffic Control will be paid for at the contract lump sum price. Payment will be full compensation for the Traffic Control Plan, Traffic Control Supervisor, removal of pavement marking, temporary pavement marking lines, removal of temporary pavement markings and restoring the original pavement markings in areas with no new pavement and maintenance thereof. Maintenance of signs includes: replacing devices damaged, lost, or stolen; and cleaning and moving as many times as necessary throughout the life of the contract, regardless whether the work areas or projects are geographically separated or not separated.

The following related work will be paid for under their respective contract bid items:

1. Flaggers
2. Temporary Concrete Barrier
3. Resetting Temporary Concrete Barriers
4. Work Zone Crash Cushions
5. Portable-Changeable Message Sign
6. Flashing Arrow Board
7. Traffic Officer
8. Construction Signs

Failure by the contractor to follow the Contract 652 Special Provision and/or The Manual of Uniform Traffic Control Devices (MUTCD) will result in a reduction in the payment, computed by reducing the lump sum total by 5% per occurrence. The Resident will provide the Traffic Control Supervisor with a written warning of a possible occurrence. The written warning from the Resident will be date and time stamped. The Contractor shall immediately fix the problem. If the problem(s) is not corrected immediately or repeatedly occurs than an occurrence has taken place and a reduction in payment of the lump sum total of 5% will occur. The Department reserves the right to suspend the work and request a meeting to discuss violations and remedies. There will be no payment for work done under this item after the expiration of contract time.

Payment will be made under:

| <u>Pay Item</u> | <u>Pay Unit</u> |
|----------------------------------|-----------------|
| 652.39 Work Zone Traffic Control | Lump Sum |

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
Construction Sign Sheeting Material

Super high intensity fluorescent retroreflective sheeting, ASTM D 4956 - Type VII, Type VIII, or Type IX (prismatic), is required for all construction signs.

SPECIAL PROVISION
SECTION 656
Temporary Soil Erosion and Water Pollution Control

Standard Specifications, Section 656 is deleted and replaced by this Special Provision. The following information and requirements apply specifically to this Project.

- 1) If the Work includes the handling or storage of petroleum products or Hazardous Materials including the on site fueling of Equipment, the Resident must be provided with a Spill Prevention Control and Countermeasure Plan (SPCCP) plan for his/her approval. At a minimum, the SPCCP shall include:
 - a) The name and emergency response numbers (telephone number, cellular phone and pager numbers, if applicable) of the Contractor's representative responsible for spill prevention;
 - b) General description and location of (1) handling, transfer, storage, and containment facilities of such products or Materials ("activities and facilities") and (2) potential receptors of such products or Materials including oceans, lakes, ponds, rivers, streams, wetlands, and sand and gravel aquifers ("sensitive resources") including the distances between said activities and facilities and said sensitive resources;
 - c) Description of preventative measures to be used to minimize the possibility of a spill including Equipment and/or Materials to be used to prevent discharges including absorbent Materials,
 - d) A contingency response plan to be implemented if a spill should occur including a list of emergency phone/pager numbers including the Contractor's representative, MDEP Spill Response, the Resident, and local police and fire authorities. For a related provision, see *Standard Specification, Section 105.2.2 - Project Specific Emergency Planning*.

- 2) The following information and requirements will constitute the Soil Erosion and Water Pollution Control Plan for this Project. The soil erosion and water pollution control measures associated with this work are as follows:
 - a) All work shall be done in accordance with the latest revision of the Maine Department of Transportation Best Management Practices for Erosion and Sediment Control (a.k.a. Best Management Practices manual or BMP Manual). The latest version is dated February 2008 and is available at <http://www.maine.gov/mdot/environmental-office-homepage/surface-water-resources.php>.
 - b) The on-site person responsible for implementation of this plan, shall be the Contractor's Superintendent or other supervisory employee (the "Environmental Coordinator") with the authority to immediately remedy any deficient controls and shall provide the Resident with their numbers (telephone number, cellular phone and pager numbers, if applicable) where the Environmental Coordinator can be reached 24 hours a day.
 - c) All areas where soil is disturbed shall be permanently mulched on a daily basis and seeded on a weekly basis (if seeded by hand, it shall be done on a daily basis). All

SPECIAL PROVISION
SECTION 656
Temporary Soil Erosion and Water Pollution Control

previously mulched areas shall be maintained and re-mulched on a daily basis if bare areas develop until an acceptable growth of grass has been obtained.

- d) Disturbed earth materials shall be disposed of in accordance with all federal, state, and local laws and regulations. If the materials will be stockpiled on-site they shall be contained on-site to prevent sediments from entering any drainage system or from washing into a protected water body or resource.
- e) If the earth materials will be reused on-site, they shall be mulched at the end of each working day, and seeded in accordance with *Standard Specification, Section 618 - Seeding*, unless the contract states otherwise. The materials shall be contained, as necessary, to prevent sediments from entering any drainage system or from washing into a protected water body or resource.
- f) Winter stabilization BMPs such as Erosion Control Mix shall be applied in accordance with the MDOT BMP Manual between November 1 and April 15 or during frozen ground conditions.
- g) The Environmental Coordinator must inspect and maintain daily all erosion and sediment controls for the duration of the project.
- h) Any costs related to this plan shall be considered incidental to the contract.
- i) If the Project Resident directs activity that involves soil disturbance beyond the auguring and/or trenching activities or that involve In-stream Work, all permits shall be obtained by the DOT, the Standard Specification 656 shall be re-instituted, and a full SEWPCP will be required and paid for as Extra Work, prior to the start of the new activity.

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

| <u>Detail #</u> | <u>Description</u> | <u>Revision Date</u> |
|------------------------|---|-----------------------------|
| 504(15) | Diaphragms | 12/30/02 |
| 507(04) | Steel Bridge Railing | 2/05/03 |
| 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 |
| 801(01) | Drives on Sidewalk Sections | 2/06/07 |
| 801(02) | Drives on Non-Sidewalk Sections | 2/06/07 |
| 535(03) | Precast Superstructure - Shear Key | 12/5/07 |
| 535(04) | Precast Superstructure - Shear Key | 12/5/07 |
| 535(05) | Precast Superstructure - Post Tensioning | 12/5/07 |
| 535(17) | Precast Superstructure - Notes | 12/5/07 |
| 801(01) | Drives on Sidewalk Sections | 1/04/08 |
| 801(02) | Drives on Non-Sidewalk Sections | 1/04/08 |
| 203(03) | Backslope Rounding | 1/29/08 |
| 535(02) | Precast Superstructure - Curb Key & Drip Notch | 5/20/08 |
| 535(05) | Precast Superstructure - Post Tensioning | 5/20/08 |

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:

| <u>From More Than</u> | <u>Up to and Including</u> | <u>Amount of Liquidated Damages per Calendar Day</u> |
|---------------------------|--------------------------------|--|
| \$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. Time.
6. 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 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 subplot 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:

| <u>Organic Content</u> | <u>Percent by Volume</u> |
|------------------------|--|
| 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 warranted 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...”

Description Change “Floor Area” to “Floor Area (Outside Dimension)”. Change Type B floor area from “15 (160)” to “14.4 (155)”.

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 15° 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/m² [80 lb/ft²] ground contact pressure...” to “...crawler type bulldozer of not more than 4875 kg/m² [2000 lb/ft²] ground contact pressure...”

653.06 Compaction In the last sentence; change “...not more than 390 kg/m² [80 lb/ft²] ground contact...” to “...not more than 4875 kg/m² [2000 lb/ft²] 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 [1/2 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."

703.09 HMA Mixture Composition The coarse and fine aggregate shall meet the requirements of Section 703.07. The several aggregate fractions for mixtures shall be sized, graded, and combined in such proportions that the resulting composite blends will meet the grading requirements of the following table.

AGGREGATE GRADATION CONTROL POINTS

| SIEVE SIZE | Nominal Maximum Aggregate Size---Control Points (Percent Passing) | | | | |
|---------------|---|---------------|-----------------|----------------|-----------------|
| | TYPE 25 mm | TYPE 19 mm | TYPE 12.5 mm | TYPE 9.5 mm | TYPE 4.75 mm |
| | PERCENT BY WEIGHT PASSING - COMBINED AGGREGATE | | | | |
| 37.5 mm | 100 | | | | |
| 25 mm | 90-100 | 100 | | | |
| 19 mm | -90 | 90-100 | 100 | | |
| 12.5 mm | | -90 | 90-100 | 100 | 100 |
| 9.5 mm | | - | -90 | 90-100 | 95-100 |
| 4.75 mm | | - | - | -90 | 80-100 |
| 2.36 mm | 19-45 | 23-49 | 28-58 | 32-67 | 40 - 80 |
| 1.18 mm | | - | - | - | - |
| 600 µm | | - | - | - | - |
| 300 µm | | - | - | - | - |
| 75 µm | 1-7 | 2-8 | 2-10 | 2-10 | 2-10 |

Gradation Classification---- The combined aggregate gradation shall be classified as coarse-graded when it passes below the Primary Control Sieve (PCS) control point as defined in the following table. All other gradations shall be classified as fine-graded.

GRADATION CLASSIFICATION

| PCS Control Point for Mixture Nominal Maximum Aggregate Size (% passing) | | | | |
|---|---------------|---------------|-----------------|----------------|
| Nominal Maximum Aggregate Size | TYPE 25 mm | TYPE 19 mm | TYPE 12.5 mm | TYPE 9.5 mm |
| Primary Control Sieve | 4.75 mm | 4.75 mm | 2.36 mm | 2.36 mm |
| PCS Control Point (% passing) | 40 | 47 | 39 | 47 |

If a Grading "D" mixture is allowed per Special Provision Section 403, it shall meet the following gradation and the aggregate requirements of Section 703.07.

| Sieve Designation | Percentage by Weight Passing Square Mesh Sieves |
|----------------------|--|
| ½ inch | 100 |
| ¾ inch | 93-100 |
| No. 4 | 60-80 |
| No. 8 | 46-65 |
| No. 16 | 25-55 |
| No. 30 | 16-40 |
| No. 50 | 10-30 |
| No. 100 | 6-22 |
| No. 200 | 3.0-8.0 |

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.”

710.04 Metal Beam Rail Replace with the following: “Galvanized steel rail elements shall conform to the requirements of AASHTO M 180, Class A, Type II.

When corrosion resistant steel is specified, rail shall conform to AASHTO M 180, Class A, Type IV. Beams of corrosion resistant steel shall not be painted or galvanized. They shall be so handled and stored that the traffic face of these beams, used in a continuous run of guardrail, shall not show a distinctive color differential.

When metal beam rail is to be installed on a curve having a radius of curvature of 150 ft. or less, the beam sections shall be fabricated on an arc to the required radius and permanently stamped or embossed with the designated radius.

The engineer may take one piece of guardrail, a backup plate, and end or buffer section from each 200 pieces in a lot, or from each lot if less than 200 pieces are included therein for determination of compliance with specification requirements. If one piece fails to conform to the requirements of this specification, two other pieces shall be tested. If either of these pieces fails to conform to the requirements of this specification, the lot of material represented by

these samples shall be rejected. A lot shall be considered that quantity of material offered for inspection at one time that bears the same heat and coating identification.”

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 [$\frac{1}{2}$ 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 [$\frac{1}{2}$ 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 [$\frac{3}{4}$ 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.”

APPENDIX A TO DIVISION 100

SECTION 1 - BIDDING PROVISIONS

A. Federally Required Certifications By signing and delivering a Bid, the Bidder certifies as provided in all certifications set forth in this Appendix A - Federal Contract Provisions Supplement including:

- Certification Regarding No Kickbacks to Procure Contract as provided on this page 1 below.
- Certification Regarding Non-collusion as provided on page 1 below.
- Certification Regarding Non-segregated Facilities as provided by FHWA Form 1273, section III set forth on page 21 below.
- "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion" as provided by FHWA Form 1273, section XI set forth on page 32 below.
- "Certification Regarding Use of Contract Funds for Lobbying" as provided by FHWA Form 1273, section XII set forth on page 35 below.

Unless otherwise provided below, the term "Bidder", for the purposes of these certifications, includes the Bidder, its principals, and the person(s) signing the Bid. Upon execution of the Contract, the Bidder (then called the Contractor) will again make all the certifications indicated in this paragraph above. Upon execution of the Contract, the Bidder (then called the Contractor) will again make all the certifications indicated in this paragraph above.

CERTIFICATION REGARDING NO KICKBACKS TO PROCURE CONTRACT Except expressly stated by the Bidder on sheets submitted with the Bid (if any), the Bidder hereby certifies, to the best of its knowledge and belief, that it has not:

(A) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me) to solicit or secure this contract;

(B) agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out the contract, or;

(C) paid, or agreed to pay, to any firm, organization, or person (other than a bona fide employee working solely for me) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the contract;

By signing and submitting a Bid, the Bidder acknowledges that this certification is to be furnished to the Maine Department of Transportation and the Federal Highway Administration, U.S. Department of Transportation in connection with this contract in anticipation of federal aid highway funds and is subject to applicable state and federal laws, both criminal and civil.

CERTIFICATION REGARDING NONCOLLUSION Under penalty of perjury as provided by federal law (28 U.S.C. §1746), 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 the Contract.

For a related provisions, see Section 102.7.2 (C) of the Standard Specifications - "Effects of Signing and Delivery of Bids" - "Certifications", Section 3 of this Appendix A entitled "Other Federal Requirements" including section XI - "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion" and section XII. - "Certification Regarding Use of Contract Funds for Lobbying."

B. Bid Rigging Hotline To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

SECTION 2 - FEDERAL EEO AND CIVIL RIGHTS REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 2 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Nondiscrimination & Civil Rights - Title VI The Contractor and its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Department deems appropriate. The Contractor and subcontractors shall comply with Title VI of the Civil Rights Act of 1964, as amended, and with all State of Maine and other Federal Civil Rights laws.

For related provisions, see Subsection B - "Nondiscrimination and Affirmative Action - Executive Order 11246" of this Section 2 and Section 3 - Other Federal Requirements of this "Federal Contract Provisions Supplement" including section II - "Nondiscrimination" of the "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273.

B. Nondiscrimination and Affirmative Action - Executive Order 11246 Pursuant to Executive Order 11246, which was issued by President Johnson in 1965 and amended in 1967 and 1978, this Contract provides as follows.

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its efforts to achieve maximum results from its actions. The Contractor shall

document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

1. Ensure and maintain a working environment free of harassment, intimidations, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all forepersons, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
2. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and to maintain a record of the organization's responses.
3. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
4. Provide immediate written notification to the Department's Civil Rights Office when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Design-Builder's efforts to meet its obligations.
5. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under B above.
6. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligation; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
7. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review

of these items with on-site supervisory personnel such as Superintendents, General Forepersons, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

8. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractor's and Subcontractors with whom the Contractor does or anticipates doing business.
9. Direct its recruitment efforts, both orally and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above describing the openings, screenings, procedures, and test to be used in the selection process.
10. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth, both on the site and in other areas of a Contractor's workforce.
11. Validate all tests and other selection requirements.
12. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
13. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
14. Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
15. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractor's and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.
16. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

C. Goals for Employment of Women and Minorities Per Executive Order 11246, craft tradesperson goals are 6.9% women and .5% minorities employed. However, goals may be adjusted upward at the mutual agreement of the Contractor and the Department. Calculation of these percentages shall not include On-the-Job Training Program trainees, and shall not include clerical or field clerk position employees.

For a more complete presentation of requirements for such Goals, see the federally required document "Goals for Employment of Females and Minorities" set forth in the next 6 pages below.

Start of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

§60-4.2 Solicitations

(d) The following notice shall be included in, and shall be part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to §60-4.6 of this part (see 41 CFR 60-4.2(a)):

Notice of Requirement for Affirmative Action to Ensure Equal Opportunity (Executive Order 11246)

1. The Offeror's or bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

Goals for female participation in each trade 6.9%

Goals for minority participation for each trade

Maine

001 Bangor, ME 0.8%

Non-SMSA Counties (Aroostook, Hancock, Penobscot, Piscataquis, Waldo, Washington)

002 Portland-Lewiston, ME

SMSA Counties: 4243 Lewiston-Auburn, ME 0.5%
(Androscoggin)

6403 Portland, ME 0.6%
(Cumberland, Sagadahoc)

Non-SMSA Counties: 0.5%
(Franklin, Kennebec, Knox, Lincoln, Oxford, Somerset, York)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be in violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor, estimated dollar amount of the subcontract; estimated started and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the Contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION
CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department form 941;
 - d. "Minority" includes:
 - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

- (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of the North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
 3. If the contractor, is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors for Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
 4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a. through p. of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical areas where the work is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specific.
 5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant, thereto.
 6. In order for the non working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the

apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as expensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, when possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment sources or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific

review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment, efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing prior to the date for the acceptance of applications for apprenticeship or the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on site and in other areas of a Contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of

solicitation to minority and female contractor associations and other business associations.

- p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7 a through p.). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7 a through p. of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program and reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions take on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
 9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, specific minority group of women is underutilized.)
 10. The Contractor shall not use the goals and timetables or affirmative action even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if standards to discriminate against any person because of race, color, religion, sex, or national origin.
 11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
 12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementation regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
 13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the

requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.6.

- 14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work was performed. Records be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
- 15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

End of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

D. Disadvantaged Business Enterprise (DBE) Requirements The Department has established an annual Disadvantaged Business Enterprise goal to be achieved through race neutral means. This goal will adjusted periodically and will be provided by Supplemental Provision. The Contractor shall comply with all provisions of this section regarding DBE participation and the Department’s latest version of the Disadvantaged Business Enterprise Program Manual, said Manual being incorporated herein by reference. In the case of conflict between this Contract and said Manual, this Contract shall control. The Department reserves the right to adjust DBE goals on a project-by-project basis by addendum.

Policy. It is the Department’s policy that DBEs as defined in 23 CFR Part 26 and referenced in the Transportation Equity Act for 21st Century of 1998, as amended from the Surface Transportation Uniform Relocation Assistance Act of 1987, and the Intermeddle Surface Transportation Efficiency Act of 1991. The intent hereto remains to provide the maximum opportunity for DBEs to participate in the performance of contracts financed in whole or in part with federal funds.

The Department and its Contractors shall not discriminate on the basis of race, color, national origin, ancestry, sex, age, or disability in the award and performance of DOT assisted contracts.

Disadvantaged Business Enterprises are those so certified by the Maine Department of Transportation Civil Rights Office prior to bid opening date.

The Department has determined that elements of a good faith effort to meet the contract goal include but are not limited to the following:

1. Whether the Contractor advertised in general circulation, trade association, and minority/women's-focus media concerning the subcontracting opportunities;
2. Whether the Contractor provided written notice to a reasonable number of specific DBEs that their interest in the contract is being solicited;
3. Whether the Contractor followed up on initial solicitations of interest by contacting DBEs to determine with certainty whether the DBEs were interested;
4. Whether the Contractor selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goals;
5. Whether the Contractor provided interested DBEs with adequate information about the plans, specification and requirements of the contract;
6. Whether the Contractor negotiated in good faith with interested DBEs, not rejecting the DBE as unqualified without sound reasons based on a thorough investigation of their capabilities;
7. Whether the Contractor made efforts to assist interested DBEs with other appropriate technical/financial assistance required by the Department or Contractor;
8. Whether the Contractor effectively used the services of available minority/women's community organizations, minority/women's business assistance offices; and other organizations that provide assistance in the recruitment and placement of DBEs.

Substitutions of DBEs. The following may be acceptable reasons for Civil Rights Office approval of such a change order:

- The DBE defaults, voluntarily removes itself or is over-extended;
- The Department deletes portions of the work to be performed by the DBE.

It is not intended that the ability to negotiate a more advantageous contract with another certified DBE be considered a valid basis for such a change in DBE utilization once the DBE Bid Submission review has been passed. Any requests to alter the DBE commitment must be in writing and included with the change order.

Failure to carry out terms of this Standard Specification shall be treated as a violation of this contract and will result in contract sanctions which may include withholding of partial payments totaling the creditable dollars amount which would have been paid for said DBE participation, termination of this contract or other measures which may affect the ability of the Contractor to obtain Department contracts.

Copies of the Maine Department of Transportation's DBE Program may be obtained from:

Maine Department of Transportation
Civil Rights Office
#16 State House Station
Augusta, Maine 04333-0016
tel. (207) 624-3519

Quarterly Reporting Requirement. The Contractor must submit Semi-annual reports of actual dollars paid to Disadvantaged Business Enterprises (DBE's) on this Project to the MDOT Civil Rights Office by the end of the third week of April and October for the period covering the preceding six months considered Federal Fiscal Year periods. The reports will be submitted directly to the Civil Rights Office on the form provided in the latest version of the DBE Program Manual. Failure to submit the report by the deadline may result in a withholding of approval of partial payment estimates by the Department.

SECTION 3 - OTHER FEDERAL REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 3 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Buy America

If the cost of products purchased for permanent use in this project which are manufactured of steel, iron or the application of any coating to products of these materials exceeds 0.1 percent of the contract amount, or \$2,500.00, whichever is greater, the products shall have been manufactured and the coating applied in the United States. The coating materials are not subject to this clause, only the application of the coating. In computing that amount, only the cost of the product and coating application cost will be included.

Ore, for the manufacture of steel or iron, may be from outside the United States; however, all other manufacturing processes of steel or iron must be in the United States to qualify as having been manufactured in the United States.

United States includes the 50 United States and any place subject to the jurisdiction thereof.

Products of steel include, but are not limited to, such products as structural steel, piles, guardrail, steel culverts, reinforcing steel, structural plate and steel supports for signs, luminaries and signals.

Products of iron include, but are not limited to, such products as cast iron grates.

Application of coatings include, but are not limited to, such applications as epoxy, galvanized and paint.

To assure compliance with this section, the Contractor shall submit a certification letter on its letterhead to the Department stating the following:

“This is to certify that products made of steel, iron or the application of any coating to products of these materials whose costs are in excess of \$2,500.00 or 0.1 percent of the original contract amount, whichever is greater, were manufactured and the coating, if one was required, was applied in the United States.”

B. Materials

a. Convict Produced Materials References: 23 U.S.C. 114(b)(2), 23 CFR 635.417

Applicability: FHWA's prohibition against the use of convict material only applies to Federal-aid highways. Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if: 1) such materials have been produced by convicts who are on parole, supervised release, or probation from a prison; or 2) such material has been produced in a qualified prison facility, e.g., prison industry, with the amount produced during any 12-month period, for use in Federal-aid projects, not exceeding the amount produced, for such use, during the 12-month period ending July 1, 1987.

Materials obtained from prison facilities (e.g., prison industries) are subject to the same requirements for Federal-aid participation that are imposed upon materials acquired from other sources. Materials manufactured or produced by convict labor will be given no preferential treatment.

The preferred method of obtaining materials for a project is through normal contracting procedures which require the contractor to furnish all materials to be incorporated in the work. The contractor selects the source, public or private, from which the materials are to be obtained (23 CFR 635.407). Prison industries are prohibited from bidding on projects directly (23 CFR 635.112e), but may act as material supplier to construction contractors.

Prison materials may also be approved as State-furnished material. However, since public agencies may not bid in competition with private firms, direct acquisition of materials from a prison industry for use as State-furnished material is subject to a public interest finding with the Division Administrator's concurrence (23 CFR 635.407d). Selection of materials produced by convict labor as State-furnished materials for mandatory use should be cleared prior to the submittal of the Plans Specifications & Estimates (PS&E).

b. Patented/Proprietary Products References: 23 U.S.C. 112, 23 CFR 635.411

FHWA will not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

- the item is purchased or obtained through competitive bidding with equally suitable unpatented items,
- the STA certifies either that the proprietary or patented item is essential for synchronization with the existing highway facilities or that no equally suitable alternative exists, or
- the item is used for research or for a special type of construction on relatively short sections of road for experimental purposes. States should follow FHWA's procedures for "Construction Projects Incorporating Experimental Features" ([expermnt.htm](#)) for the submittal of work plans and evaluations.

The primary purpose of the policy is to have competition in selection of materials and allow for development of new materials and products. The policy further permits materials and products that are judged equal may be bid under generic specifications. If only patented or proprietary products are acceptable, they shall be bid as alternatives with all, or at least a

reasonable number of, acceptable materials or products listed; and the Division Administrator may approve a single source if it can be found that its utilization is in the public interest.

Trade names are generally the key to identifying patented or proprietary materials. Trade name examples include 3M, Corten, etc. Generally, products identified by their brand or trade name are not to be specified without an "or equal" phrase, and, if trade names are used, all, or at least a reasonable number of acceptable "equal" materials or products should be listed. The licensing of several suppliers to produce a product does not change the fact that it is a single product and should not be specified to the exclusion of other equally suitable products.

c. State Preference References: 23 U.S.C. 112, 23 CFR 635.409

Materials produced within Maine shall not be favored to the exclusion of comparable materials produced outside of Maine. State preference clauses give particular advantage to the designated source and thus restrict competition. Therefore, State preference provisions shall not be used on any Federal-aid construction projects.

This policy also applies to State preference actions against materials of foreign origin, except as otherwise permitted by Federal law. Thus, States cannot give preference to in-State material sources over foreign material sources. Under the Buy America provisions, the States are permitted to expand the Buy America restrictions provided that the STA is legally authorized under State law to impose more stringent requirements.

d. State Owned/Furnished/Designated Materials References: 23 U.S.C. 112, 23 CFR 635.407

Current FHWA policy requires that the contractor must furnish all materials to be incorporated in the work, and the contractor shall be permitted to select the sources from which the materials are to be obtained. Exceptions to this requirement may be made when there is a definite finding, by MDOT and concurred in by Federal Highway Administration's (FHWA) Division Administrator, that it is in the public interest to require the contractor to use materials furnished by the MDOT or from sources designated by MDOT. The exception policy can best be understood by separating State-furnished materials into the categories of manufactured materials and local natural materials.

Manufactured Materials When the use of State-furnished manufactured materials is approved based on a public interest finding, such use must be made mandatory. The optional use of State-furnished manufactured materials is in violation of our policy prohibiting public agencies from competing with private firms. Manufactured materials to be furnished by MDOT must be acquired through competitive bidding, unless there is a public interest finding for another method, and concurred in by FHWA's Division Administrator.

Local Natural Materials When MDOT owns or controls a local natural materials source such as a borrow pit or a stockpile of salvaged pavement material, etc., the materials may be designated for either optional or mandatory use; however, mandatory use will require a public interest finding (PIF) and FHWA's Division Administrator's concurrence.

In order to permit prospective bidders to properly prepare their bids, the location, cost, and any conditions to be met for obtaining materials that are made available to the contractor shall be stated in the bidding documents.

Mandatory Disposal Sites Normally, the disposal site for surplus excavated materials is to be of the contractor's choosing; although, an optional site(s) may be shown in the contract provisions. A mandatory site shall be specified when there is a finding by MDOT, with the concurrence of the Division Administrator, that such placement is the most economical or that the environment would be substantially enhanced without excessive cost. Discussion of the mandatory use of a disposal site in the environmental document may serve as the basis for the public interest finding.

Summarizing FHWA policy for the mandatory use of borrow or disposal sites:

- mandatory use of either requires a public interest finding and FHWA's Division Administrator's concurrence,
- mandatory use of either may be based on environmental consideration where the environment will be substantially enhanced without excessive additional cost, and
- where the use is based on environmental considerations, the discussion in the environmental document may be used as the basis for the public interest finding.

Factors to justify a public interest finding should include such items as cost effectiveness, system integrity, and local shortages of material.

C. Standard FHWA Contract Provisions - FHWA 1273

Unless expressly otherwise provided in the Bid Documents, the following "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273, are hereby incorporated into the Bid Documents and Contract.

Start of FHWA 1273 REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS(As revised through March 10, 1994)

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;
Section IV, paragraphs 1, 2, 3, 4, and 7;
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.
6. Selection of Labor: During the performance of this contract, the contractor shall not:
 - a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or
 - b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION (Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:
 - a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.
 - b. The contractor will accept as his operating policy the following statement:
"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment,

upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

2. EEO Officer. The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.
3. Dissemination of Policy. All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
 - a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
 - b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
 - c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.
 - d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. Recruitment. When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.
 - a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

- b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)
 - c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.
5. Personnel Actions. Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:
- a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
 - b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
 - c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
 - d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.
6. Training and Promotion.
- a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.
 - b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision

for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

- c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
 - d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.
7. Unions. If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:
- a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
 - b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
 - c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.
 - d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.
8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment. The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

- a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.
 - b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.
 - c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.
9. Records and Reports. The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.
- a. The records kept by the contractor shall document the following:
 - (1) The number of minority and non-minority group members and women employed in each work classification on the project;
 - (2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;
 - (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
 - (4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.
 - b. All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the MDOT and the Federal Highway Administration.

The Contractor will submit to the MDOT a report for the month of July, indicating the total hours worked by minority, women and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form PR-1391. If on-the-job training is being required by "Training Special Provision," the Contractor will be required to furnish Form FHWA-1409. The report is required for week ending July 15 and can be obtained from MDOT, is due by week ending August 20th. This report is to be furnished directly to MDOT - Civil Rights Office.

III. NONSEGREGATED FACILITIES (Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

- a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.
- b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).
- c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE (Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

- a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the

provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

- b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.
- c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

- a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.
- b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:
 - (1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;
 - (2) the additional classification is utilized in the area by the construction industry;
 - (3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and
 - (4) with respect to helpers, when such a classification prevails in the area in which the work is performed.
- c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

- d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary
- e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

- a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.
- b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

a. Apprentices:

- (1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.
- (2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor

as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

- (3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.
- (4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

- (1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.
- (2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

- (3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.
 - (4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- c. **Helpers.** Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.
5. **Apprentices and Trainees (Programs of the U.S. DOT).** Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.
 6. **Withholding.** The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.
 7. **Overtime Requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4

and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation. Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.
9. Withholding for Unpaid Wages and Liquidated Damages. The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS (Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3). The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.
2. Payrolls and Payroll Records:
 - a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
 - b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in

Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.
- d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - (1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
 - (2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;
 - (3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.
- f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

- g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:
 - a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
 - b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
 - c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.
2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).
 - a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor,

with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

- b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.
4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health

standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both."

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations

in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.
3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.
4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions:
(Applicable to all Federal-aid contracts - 49 CFR 29)
 - a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
 - b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
 - c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
 - d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
 - e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out

in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

- f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
- g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.
- i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--
Primary Covered Transactions

- 1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or

local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and
- d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Covered Transactions: (Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
- h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--
Lower Tier Covered Transactions:

- 1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- 2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

- 1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
 - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
 - b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a

Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

End of FHWA 1273

Environmental Summary Sheet

PIN #: 15610.00 and 15611.00

Town: Bangor

Environmental Office Contact: **Dave Gardner** (david.gardner@maine.gov) 592-2471

Coordination & Permits Manager: Matt Steele

Date Submitted: 10/15/08

Database/Projex

Section 106 and Tribal Consultation

4(f) and 6(f)

FEMA

Maine Department of Inland Fisheries and Wildlife (MDIFW) Essential Habitat

Maine Department of Conservation/ Public Lands, Submerged Land Lease

Land Use Regulation Commission (LURC)

Maine Department of Environmental Protection (MDEP) Site Location of Development

Maine Department of Environmental Protection (MDEP), Natural Resource Protection Act

Army Corps of Engineers (ACOE), Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

IN-STREAM TIMING RESTRICTIONS: 105 Special Provision n/a

NEPA Complete

Special Provision 656, Erosion Control Plan
