

**Updated 9/6/2024**

# **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, (if required), and f) any other certifications or Bid requirements listed in the Bid Documents as due by Bid opening.

#### For an Electronic Bid:

**NOTE: Not all projects accept Electronic Bids. Please review the Notice to Contractors and see if it specifically states that Electronic Bids will be accepted.**

- a) a completed Bid using Expedite® software and submitted via the Bid Express™ web-based service, b) an electronic Bid Guaranty (if required) 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 items in the Schedule of Items (excluding non-selected alternates).
  4. 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 or
    - c) an electronic bid bond submitted with an electronic bid.
  5. If a paper Bid is to be sent, "FedEx First 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, and submit with your bid. If you are submitting your bid electronically, you must FAX the form to (207) 624-3431. This is a curable defect.

*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, March 2020 Edition.*

# 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 an optional plan holders 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 fill out the on-line plan holder registration form and provide an email address to the MDOT Contracts mailbox at: [MDOT.contracts@maine.gov](mailto: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 David Oakes at [david.oakes@maine.gov](mailto:david.oakes@maine.gov), or Guy Berthiaume at [guy.berthiaume@maine.gov](mailto:guy.berthiaume@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:

October 16, 2001

**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 submitting questions concerning specific Contracts that have been advertised for Bid, include additional numbered pages as required. RFI’s may be faxed to 207-624-3431, submitted electronically through the Departments web page of advertised projects by selecting the RFI tab on the project details page or via e-mail to [RFI-Contracts.MDOT@maine.gov](mailto:RFI-Contracts.MDOT@maine.gov).

These are the only allowable mechanisms 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.

When submitting RFIs by Email please follow the same guidelines as stated on the “Request for Information” form and include the word “RFI” along with the Project name and Identification number in the subject line.

## RFI No: \_\_\_\_\_

**Date** \_\_\_\_\_ **Time** \_\_\_\_\_

**WIN(S):** \_\_\_\_\_ **Town(s):** \_\_\_\_\_ **Bid Date:** \_\_\_\_\_

**Question(s):**\_\_\_\_\_

**Company Name:** \_\_\_\_\_ **Phone: ( )** \_\_\_\_\_

**Email:** \_\_\_\_\_ **Fax:** (\_\_\_\_) \_\_\_\_\_

7

# NOTICE

## Disadvantaged Business Enterprise Commitment Confirmation

**All** Bidders must submit the Commitment Confirmation form with their bid.

The Commitment Confirmation form contains information required by USDOT.

The Commitment Confirmation form must be completed by each Prime Contractor.

A copy of the new Commitment Confirmation form and instructions for completing it are attached.

The DBE Directory can be found on the MaineDOT Website at: <https://www.maine.gov/mdot/civilrights/dbe/>

Questions about the Directory or this form should be sent to the Civil Rights Office at [mary.bryant@maine.gov](mailto:mary.bryant@maine.gov) or by calling 207-624-3056.

## INSTRUCTIONS FOR PREPARING THE MAINEDOT BIDDER'S LIST FORM

The Contractor shall extend equal opportunity to MaineDOT certified DBE firms (as listed in MaineDOT's DBE Directory of Certified Businesses) in the selection and utilization of subcontractors and suppliers.

Each prime contractor submitting a bid on a federally funded project must complete each section of the Bidder's List Form in its entirety for itself and each subcontractor on that project.

### SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

#### Section A:

1. Insert Prime Contractor Name
2. Insert WIN for the Federal Project bidding on
3. Insert Bid Date
4. Insert Project Location
5. Insert Email address of Contact Person

#### Section B:

- A. Enter each Contractor's and Sub-Contractor's name and address (including zip code) – Prime Contractor's name should be listed in first box of this section; then each additional line would be proposed subcontractors – DBE and NonDBE
- B. Enter each Contractor's and Sub-Contractor's annual gross receipts bracket (see the legend on the form)
- C. Enter DBE status (DBE or non-DBE) for each contractor/sub-contractor
- D. Enter each Contractor's and Sub-Contractor's NAICS (North Amer. Industry Classification System) code (may be more than one) and Scope of Work
- E. For each Contractor and Sub-Contractor enter the Race and Gender of the firm's majority owner
- F. Enter the Age of each firm for every Contractor and Sub-Contractor
- G. Enter the Proposed amount of payment (Bid amount) for each Contractor/Sub-Contractor.

Maine Department of Transportation  
**BIDDER'S LIST FORM**

## Section A. Bidder/Prime Contractor Information.

**This section must be completed by the Bidder/Prime Contractor.**

|                           |  |                         |  |              |  |
|---------------------------|--|-------------------------|--|--------------|--|
| 1. Prime Contractor Name: |  | 2. Federal Project W/N: |  | 3. Bid Date: |  |
| 4. Project Location:      |  | 5. Email Address:       |  |              |  |

### **Section B. Commitment Details - Prime Contractor and all Proposed Subcontractor Information is Required in This Section**

[illegible]

\*1) Less Than \$1M, 2) \$1 - \$3M, 3) \$3 - \$6M, 4) \$6 - \$10M, 5) \$10 - \$20M, 6) \$20 - \$50M, 7) Greater Than \$50M

MaineDOT Use Only:

<sup>1</sup>Form Received: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Verified by: ☐ FHWA ☐ FTA ☐ FAA ☐

**For a complete list of certified DBE firms please visit: <http://www.maine.gov/dot/doing-business/civil-rights/dbe>**

Note: This information is required pursuant to 49 CFR §26.11 and is used to track data in all federally funded MaineDOT contracts.

**DBE GOAL 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 (MaineDOT) has established a Disadvantaged Business Enterprise Program (DBE) for disadvantaged business participation in the federal-aid highway and bridge construction programs; MaineDOT contracts covered by the program include consulting, construction, supplies, manufacturing, and service contracts.

Beginning September 1, 2024, MaineDOT has established an annual DBE participation goal of **1.43%** to be achieved through race/gender neutral means. This goal has been approved by the Federal Highway Administration through August 31, 2027. MaineDOT must meet this goal each federal fiscal year. If the goal is not met, MaineDOT must provide a justification for not meeting the goal and provide a plan to ensure the goal is met, which may include contract goals on certain projects that contractors will be required to meet.

MaineDOT asks all contractors, consultants and subcontractors to seek certified DBE firms for projects and to work to meet the determined 1.43% goal without the need to impose contract goals. DBE firms are listed on the MaineDOT website at:

<http://www.maine.gov/mdot/disadvantaged-business-enterprises/pdf/directory.pdf>

Interested parties may view MaineDOT's DBE goal setting methodology, also posted on this website. If you have questions regarding this goal or the DBE program you may contact Sherry Tompkins at the Maine Department of Transportation, Civil Rights Office by telephone at (207) 624-3066 or by e-mail at: [sherry.tompkins@maine.gov](mailto:sherry.tompkins@maine.gov)

**Maine Department of Transportation Civil Rights Office**

**Directory of Certified Disadvantaged Business Enterprises**

**Listing can be found at:**

<https://www.maine.gov/mdot/civilrights/dbe/>

**For additional information and guidance contact:**

**Civil Rights Office at (207) 624-3066**

***It is the responsibility of the Contractor to access the DBE Directory at this site in order to have the most current listing.***

### **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/venbid/index.shtml>

## 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 **Highway Rehabilitation** in the Town of **Pittsfield**" will be received from contractors at the Reception Desk, MaineDOT Building, Capitol Street, Augusta, Maine, until 11:00 o'clock A.M. (prevailing time) on **October 15, 2025**, 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 **Highway Construction, Paving**, or project specific prequalification to be considered for the award of this contract. **We now accept electronic bids for 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. STP-2181(200) WIN 021812.00

Location: In Somerset County, project is located on Route 11, beginning 0.04 of a mile north of Detroit Avenue, extending north 0.917 of a mile.

Outline of Work: Highway Rehabilitation and other incidental work.

**The basis of award will be Section 1 Only. Sections 1 and 2 must be bid.**

For general information regarding Bidding and Contracting procedures, contact George Macdougall at (207) 624-3410. Our webpage at <http://www.maine.gov/mdot/contractors/> contains a copy of the Schedule of Items, Plan Holders List, written portions of bid amendments, drawings, bid results and an electronic form for RFI submittal. For Project-specific information fax all questions to **Randall Barrows** at (207) 624-3431, use electronic RFI form or email questions to [RFI-Contracts.MDOT@maine.gov](mailto:RFI-Contracts.MDOT@maine.gov), project name and identification number should be in the subject line. Questions received after 12:00 noon of Monday (or if that Monday is a state holiday, 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. TTY users call Maine Relay 711.

Bid Documents, specifications and bid forms can be viewed and obtained digitally at no cost at <http://www.maine.gov/mdot/contractors/>. They may be purchased from the Department between the hours of 7:00 a.m. to 3:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 24 Child Street, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207) 624-3536 between the hours of 7:00 a.m. to 3:30 p.m. Full size plans **\$95.00 (\$101.00 by mail)**. Half size plans **\$47.50 (\$51.00 by mail)**, Bid Book \$10 (\$13 by mail), Single Sheets \$2, payment in advance, all non-refundable.

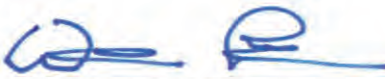
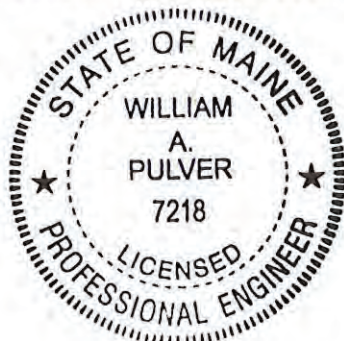
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of 5% of the bid amount, payable to Treasurer, 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, March 2020 Edition*, price \$10 [\$15 by mail], and *Standard Details, March 2020 Edition*, price \$10 [\$15 by mail]. They also may be purchased by telephone at (207) 624-3536 between the hours of 7:00 a.m. to 3:30 p.m. *Standard Detail* updates can be found at <http://www.maine.gov/mdot/contractors/publications/>.

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

Augusta, Maine  
September 24, 2025



WILLIAM A. PULVER P. E.  
CHIEF ENGINEER

# NOTICE

All bids for Federal Projects **shall** be accompanied by the DBE Proposed Utilization form. If you are submitting an electronic bid, the DBE Utilization Form may be faxed to 207-624-3431. Failure to submit the form with the bid will be considered a curable defect.

**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/contractors/> . It is the responsibility of the Bidder to determine if there are Amendments to the Project, to download them, to incorporate them into their Bid Package, and to reference the Amendment number and the date on the form below. The Maine DOT will not post Bid Amendments any later than noon the day before Bid opening without individually notifying all the planholders.

| Amendment Number | Date |
|------------------|------|
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |

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

CONTRACTOR

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of authorized representative

\_\_\_\_\_  
(Name and Title Printed)

9/3/2025

## Maine Department of Transportation

## Proposal Schedule of Items

Page 1 of 8

Proposal ID: 021812.00

Project(s): 021812.00

SECTION: 1 HIGHWAY ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: \_\_\_\_\_

| Proposal<br>Line<br>Number | Item ID<br>Description                                                | Approximate<br>Quantity and<br>Units | Unit Price |       | Bid Amount |       |
|----------------------------|-----------------------------------------------------------------------|--------------------------------------|------------|-------|------------|-------|
|                            |                                                                       |                                      | Dollars    | Cents | Dollars    | Cents |
| 0010                       | 201.23<br>REMOVING SINGLE TREE TOP ONLY                               | 8.000<br>EA                          |            |       |            |       |
| 0020                       | 201.24<br>REMOVING STUMP                                              | 10.000<br>EA                         |            |       |            |       |
| 0030                       | 202.20<br>REMOVING BITUMINOUS CONCRETE<br>PAVEMENT                    | 900.000<br>SY                        |            |       |            |       |
| 0040                       | 202.202<br>REMOVING PAVEMENT SURFACE                                  | 12,500.000<br>SY                     |            |       |            |       |
| 0050                       | 202.203<br>PAVEMENT BUTT JOINTS                                       | 220.000<br>SY                        |            |       |            |       |
| 0060                       | 203.20<br>COMMON EXCAVATION                                           | 7,200.000<br>CY                      |            |       |            |       |
| 0070                       | 203.25<br>GRANULAR BORROW                                             | 50.000<br>CY                         |            |       |            |       |
| 0080                       | 304.16<br>AGGREGATE BASE COURSE - TYPE C                              | 5,850.000<br>CY                      |            |       |            |       |
| 0090                       | 403.209<br>HOT MIX ASPHALT 9.5 MM<br>(SIDEWALKS, DRIVES, INCIDENTALS) | 470.000<br>T                         |            |       |            |       |
| 0100                       | 403.2101<br>9.5 MM POLYMER MODIFIED HMA                               | 1,640.000<br>T                       |            |       |            |       |
| 0110                       | 403.211<br>HOT MIX ASPHALT (SHIMMING)                                 | 350.000<br>T                         |            |       |            |       |
| 0120                       | 403.213<br>HOT MIX ASPHALT 12.5 MM BASE                               | 610.000<br>T                         |            |       |            |       |
| 0130                       | 409.15<br>BITUMINOUS TACK COAT - APPLIED                              | 1,200.000<br>G                       |            |       |            |       |

9/3/2025

## Maine Department of Transportation

## Proposal Schedule of Items

Page 2 of 8

Proposal ID: 021812.00

Project(s): 021812.00

SECTION: 1 HIGHWAY ITEMS

Alt Set ID:

Alt Mbr ID:

Contractor: \_\_\_\_\_

| Proposal<br>Line<br>Number | Item ID<br>Description                                   | Approximate<br>Quantity and<br>Units | Unit Price |       | Bid Amount |       |
|----------------------------|----------------------------------------------------------|--------------------------------------|------------|-------|------------|-------|
|                            |                                                          |                                      | Dollars    | Cents | Dollars    | Cents |
| 0140                       | 603.159<br>12 INCH CULVERT PIPE OPTION III               | 260.000<br>LF                        |            |       |            |       |
| 0150                       | 603.16<br>15 INCH CULVERT PIPE OPTION I                  | 280.000<br>LF                        |            |       |            |       |
| 0160                       | 603.17<br>18 INCH CULVERT PIPE OPTION I                  | 40.000<br>LF                         |            |       |            |       |
| 0170                       | 603.175<br>18 INCH REINFORCED CONCRETE<br>PIPE CLASS III | 168.000<br>LF                        |            |       |            |       |
| 0180                       | 603.179<br>18 INCH CULVERT PIPE OPTION III               | 30.000<br>LF                         |            |       |            |       |
| 0190                       | 603.195<br>24 INCH REINFORCED CONCRETE<br>PIPE CLASS III | 52.000<br>LF                         |            |       |            |       |
| 0200                       | 603.215<br>36 INCH REINFORCED CONCRETE<br>PIPE CLASS III | 84.000<br>LF                         |            |       |            |       |
| 0210                       | 603.55<br>CONCRETE PIPE TIES                             | 6.000<br>GP                          |            |       |            |       |
| 0220                       | 604.092<br>CATCH BASIN TYPE B1-C                         | 28.000<br>EA                         |            |       |            |       |
| 0230                       | 604.132<br>5' DIAMETER CATCH BASIN                       | 3.000<br>EA                          |            |       |            |       |
| 0240                       | 604.154<br>72 INCH MANHOLE                               | 1.000<br>EA                          |            |       |            |       |
| 0250                       | 604.16<br>ALTERING CATCH BASIN TO<br>MANHOLES            | 1.000<br>EA                          |            |       |            |       |

9/3/2025

## Maine Department of Transportation

## Proposal Schedule of Items

Page 3 of 8

Proposal ID: 021812.00

Project(s): 021812.00

SECTION: 1 HIGHWAY ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: \_\_\_\_\_

| Proposal<br>Line<br>Number | Item ID<br>Description                                 | Approximate<br>Quantity and<br>Units | Unit Price |       | Bid Amount |       |
|----------------------------|--------------------------------------------------------|--------------------------------------|------------|-------|------------|-------|
|                            |                                                        |                                      | Dollars    | Cents | Dollars    | Cents |
| 0260                       | 604.18<br>ADJUSTING MANHOLE OR CATCH<br>BASIN TO GRADE | 1.000<br>EA                          |            |       |            |       |
| 0270                       | 604.244<br>CATCH BASIN TYPE F4                         | 10.000<br>EA                         |            |       |            |       |
| 0280                       | 604.262<br>CATCH BASIN TYPE B5-C                       | 1.000<br>EA                          |            |       |            |       |
| 0290                       | 605.09<br>6 INCH UNDERDRAIN TYPE B                     | 2,090.000<br>LF                      |            |       |            |       |
| 0300                       | 605.10<br>6 INCH UNDERDRAIN OUTLET                     | 70.000<br>LF                         |            |       |            |       |
| 0310                       | 605.11<br>12 INCH UNDERDRAIN TYPE C                    | 1,810.000<br>LF                      |            |       |            |       |
| 0320                       | 605.12<br>15 INCH UNDERDRAIN TYPE C                    | 610.000<br>LF                        |            |       |            |       |
| 0330                       | 607.16<br>CHAIN LINK FENCE - 4 FOOT                    | 55.000<br>LF                         |            |       |            |       |
| 0340                       | 608.26<br>CURB RAMP DETECTABLE WARNING<br>FIELD        | 150.000<br>SF                        |            |       |            |       |
| 0350                       | 609.11<br>VERTICAL CURB TYPE 1                         | 3,490.000<br>LF                      |            |       |            |       |
| 0360                       | 609.12<br>VERTICAL CURB TYPE 1 - CIRCULAR              | 235.000<br>LF                        |            |       |            |       |
| 0370                       | 609.221<br>TERMINAL CURB TYPE 1                        | 568.000<br>LF                        |            |       |            |       |
| 0380                       | 609.222<br>TERMINAL CURB TYPE 1 - CIRCULAR             | 60.000<br>LF                         |            |       |            |       |

9/3/2025

## Maine Department of Transportation

## Proposal Schedule of Items

Page 4 of 8

Proposal ID: 021812.00

Project(s): 021812.00

SECTION: 1 HIGHWAY ITEMS

Alt Set ID:

Alt Mbr ID:

Contractor: \_\_\_\_\_

| Proposal<br>Line<br>Number | Item ID<br>Description                                                          | Approximate<br>Quantity and<br>Units | Unit Price |       | Bid Amount |       |
|----------------------------|---------------------------------------------------------------------------------|--------------------------------------|------------|-------|------------|-------|
|                            |                                                                                 |                                      | Dollars    | Cents | Dollars    | Cents |
| 0390                       | 609.31<br>CURB TYPE 3                                                           | 315.000<br>LF                        |            |       |            |       |
| 0400                       | 609.34<br>CURB TYPE 5                                                           | 320.000<br>LF                        |            |       |            |       |
| 0410                       | 609.35<br>CURB TYPE 5 - CIRCULAR                                                | 38.000<br>LF                         |            |       |            |       |
| 0420                       | 610.08<br>PLAIN RIPRAP                                                          | 40.000<br>CY                         |            |       |            |       |
| 0430                       | 615.07<br>LOAM                                                                  | 1,300.000<br>CY                      |            |       |            |       |
| 0440                       | 618.13<br>SEEDING METHOD NUMBER 1                                               | 110.000<br>UN                        |            |       |            |       |
| 0450                       | 619.12<br>MULCH                                                                 | 110.000<br>UN                        |            |       |            |       |
| 0460                       | 620.58<br>EROSION CONTROL GEOTEXTILE                                            | 90.000<br>SY                         |            |       |            |       |
| 0470                       | 627.733<br>4" WHITE OR YELLOW PAINTED<br>PAVEMENT MARKING LINE                  | 17,200.000<br>LF                     |            |       |            |       |
| 0480                       | 627.75<br>WHITE OR YELLOW PAVEMENT &<br>CURB MARKING                            | 1,040.000<br>SF                      |            |       |            |       |
| 0490                       | 627.78<br>TEMPORARY 4 INCH PAINTED<br>PAVEMENT MARKING LINE, WHITE<br>OR YELLOW | 34,400.000<br>LF                     |            |       |            |       |
| 0500                       | 629.05<br>HAND LABOR, STRAIGHT TIME                                             | 20.000<br>HR                         |            |       |            |       |

9/3/2025

## Maine Department of Transportation

## Proposal Schedule of Items

Page 5 of 8

Proposal ID: 021812.00

Project(s): 021812.00

SECTION: 1 HIGHWAY ITEMS

Alt Set ID:

Alt Mbr ID:

Contractor: \_\_\_\_\_

| Proposal<br>Line<br>Number | Item ID<br>Description                                  | Approximate<br>Quantity and<br>Units | Unit Price |       | Bid Amount |       |
|----------------------------|---------------------------------------------------------|--------------------------------------|------------|-------|------------|-------|
|                            |                                                         |                                      | Dollars    | Cents | Dollars    | Cents |
| 0510                       | 631.10<br>AIR COMPRESSOR (INCLUDING<br>OPERATOR)        | 10.000<br>HR                         |            |       |            |       |
| 0520                       | 631.11<br>AIR TOOL (INCLUDING OPERATOR)                 | 10.000<br>HR                         |            |       |            |       |
| 0530                       | 631.12<br>ALL PURPOSE EXCAVATOR<br>(INCLUDING OPERATOR) | 20.000<br>HR                         |            |       |            |       |
| 0540                       | 631.14<br>GRADER (INCLUDING OPERATOR)                   | 20.000<br>HR                         |            |       |            |       |
| 0550                       | 631.172<br>TRUCK - LARGE (INCLUDING<br>OPERATOR)        | 40.000<br>HR                         |            |       |            |       |
| 0560                       | 631.20<br>STUMP CHIPPER (INCLUDING<br>OPERATOR)         | 10.000<br>HR                         |            |       |            |       |
| 0570                       | 631.32<br>CULVERT CLEANER (INCLUDING<br>OPERATOR)       | 10.000<br>HR                         |            |       |            |       |
| 0580                       | 639.18<br>FIELD OFFICE TYPE A                           | 1.000<br>EA                          |            |       |            |       |
| 0590                       | 652.33<br>DRUM                                          | 10.000<br>EA                         |            |       |            |       |
| 0600                       | 652.34<br>CONE                                          | 90.000<br>EA                         |            |       |            |       |
| 0610                       | 652.35<br>CONSTRUCTION SIGNS                            | 350.000<br>SF                        |            |       |            |       |
| 0620                       | 652.36<br>MAINTENANCE OF TRAFFIC<br>CONTROL DEVICES     | 180.000<br>CD                        |            |       |            |       |

9/3/2025

Maine Department of Transportation

Proposal Schedule of Items

Page 6 of 8

Proposal ID: 021812.00

Project(s): 021812.00

SECTION: 1 HIGHWAY ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: \_\_\_\_\_

| Proposal<br>Line<br>Number | Item ID<br>Description                                          | Approximate<br>Quantity and<br>Units | Unit Price |          | Bid Amount |       |
|----------------------------|-----------------------------------------------------------------|--------------------------------------|------------|----------|------------|-------|
|                            |                                                                 |                                      | Dollars    | Cents    | Dollars    | Cents |
| 0630                       | 652.38<br>FLAGGER                                               | 6,350.000<br>HR                      |            |          |            |       |
| 0640                       | 652.41<br>PORTABLE CHANGEABLE MESSAGE<br>SIGN                   | 3.000<br>EA                          |            |          |            |       |
| 0650                       | 656.75<br>TEMPORARY SOIL EROSION AND<br>WATER POLLUTION CONTROL | LUMP SUM                             |            | LUMP SUM |            |       |
| 0660                       | 658.20<br>ACRYLIC LATEX COLOR FINISH,<br>GREEN                  | 120.000<br>SY                        |            |          |            |       |
| 0670                       | 659.10<br>MOBILIZATION                                          | LUMP SUM                             |            | LUMP SUM |            |       |
| Section: 1                 |                                                                 |                                      | Total:     |          |            |       |

9/3/2025

## Maine Department of Transportation

## Proposal Schedule of Items

Page 7 of 8

Proposal ID: 021812.00

Project(s): 021812.00

SECTION: 2 Utility Items

Alt Set ID:

Alt Mbr ID:

Contractor: \_\_\_\_\_

| Proposal<br>Line<br>Number | Item ID<br>Description                                              | Approximate<br>Quantity and<br>Units | Unit Price |       | Bid Amount |       |
|----------------------------|---------------------------------------------------------------------|--------------------------------------|------------|-------|------------|-------|
|                            |                                                                     |                                      | Dollars    | Cents | Dollars    | Cents |
| 0680                       | 202.126<br>REMOVE EXISTING CONCRETE SLAB<br>TO FULL DEPTH           | 170.000<br>SY                        |            |       |            |       |
| 0690                       | 202.15<br>REMOVING EXISTING MANHOLE OR<br>CATCH BASIN               | 2.000<br>EA                          |            |       |            |       |
| 0700                       | 202.61<br>REMOVE STORM DRAIN OR SEWER<br>PIPE, ALL DEPTHS AND SIZES | LUMP SUM                             |            |       |            |       |
| 0710                       | 203.21<br>ROCK EXCAVATION                                           | 50.000<br>CY                         |            |       |            |       |
| 0720                       | 502.461<br>STRUCTURAL CONCRETE, REPLACE<br>CONCRETE SLAB.           | 50.000<br>CY                         |            |       |            |       |
| 0730                       | 801.03<br>TEST PITS                                                 | 7.000<br>EA                          |            |       |            |       |
| 0740                       | 801.141<br>4" PVC SANITARY SEWER (SDR-35)                           | 150.000<br>LF                        |            |       |            |       |
| 0750                       | 801.501<br>VERTICAL SEWER CLEANOUT                                  | 3.000<br>EACH                        |            |       |            |       |
| 0760                       | 812.162<br>ADJUSTING SEWER MANHOLE TO<br>GRADE                      | 5.000<br>EA                          |            |       |            |       |
| 0770                       | 812.163<br>MODIFY SEWER MH, ADJUST FRAME<br>& COVER                 | 1.000<br>EA                          |            |       |            |       |
| 0780                       | 822.3401<br>8 INCH DUCTILE IRON PIPE, VALVES<br>AND FITTINGS        | 40.000<br>LF                         |            |       |            |       |
| 0790                       | 827.331<br>TRENCH INSULATION                                        | 40.000<br>SY                         |            |       |            |       |

9/3/2025

Maine Department of Transportation

Proposal Schedule of Items

Page 8 of 8

Proposal ID: 021812.00

Project(s): 021812.00

SECTION: 2                      Utility Items

Alt Set ID:                      Alt Mbr ID:

Contractor: \_\_\_\_\_

| Proposal<br>Line<br>Number | Item ID<br>Description             | Approximate<br>Quantity and<br>Units | Unit Price |       | Bid Amount |       |
|----------------------------|------------------------------------|--------------------------------------|------------|-------|------------|-------|
|                            |                                    |                                      | Dollars    | Cents | Dollars    | Cents |
| 0800                       | 832.07<br>OWNERS TESTING ALLOWANCE | LUMP SUM                             | LUMP SUM   |       | _____      | _____ |
|                            | Section: 2                         |                                      | Total:     |       | _____      | _____ |
|                            |                                    |                                      | Total Bid: |       | _____      | _____ |

## **CONTRACT AGREEMENT, OFFER & AWARD**

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

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

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

### **A. The Work.**

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, **WIN 021812.00** for **Highway Rehabilitation** in the town of **Pittsfield**, county of **Somerset, 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; performing construction quality control including inspection, testing and documentation; providing 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 shall be made as provided in the same.

### **B. Time.**

The Contractor agrees to complete all Work, except warranty work, on or before **June 18, 2027**. 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, March 2020 Edition* 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

**Section 1 \$** \_\_\_\_\_

**Section 2 \$** \_\_\_\_\_

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, March 2020 Edition, Standard Details March 2020 Edition* 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 Appendix A to Division 100 of the *Standard Specifications March 2020 Edition* (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 March 2020 Edition*, *Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **WIN 021812.00 – Highway Rehabilitation - in the town of Pittsfield, 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, March 2020 Edition*, 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 March 2020 Edition* 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 with their bid.

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<br>of the Contractor) |
| _____   | _____                                                                 |
| Witness | (Name and Title Printed)                                              |

**G. Award.**

Your offer is hereby accepted for (see checked boxes):

**Section 1** ☒

**Section 2** ☒

**Contract Amount:** \_\_\_\_\_

This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

|         |                                          |
|---------|------------------------------------------|
| _____   | _____                                    |
| Date    | By: Dale F. Doughty, Acting 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, **WIN 021812.00** for **Highway Rehabilitation** in the town of **Pittsfield**, county of **Somerset, 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; performing construction quality control including inspection, testing and documentation; providing 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 shall be made as provided in the same.

### **B. Time.**

The Contractor agrees to complete all Work, except warranty work, on or before **June 18, 2027**. 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, March 2020 Edition* 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

**Section 1 \$** \_\_\_\_\_

**Section 2 \$** \_\_\_\_\_

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, March 2020 Edition*, *Standard Details March 2020 Edition* 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 Appendix A to Division 100 of the *Standard Specifications March 2020 Edition* (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 March 2020 Edition*, *Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **WIN 021812.00 – Highway Rehabilitation - in the town of Pittsfield, 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, March 2020 Edition*, 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 March 2020 Edition* 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 with their bid.

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<br>of the Contractor) |
| _____   | _____                                                                 |
| Witness | (Name and Title Printed)                                              |

**G. Award.**

Your offer is hereby accepted for (see checked boxes):

**Section 1** ☒

**Section 2** ☒

**Contract Amount:** \_\_\_\_\_

This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

|         |                                          |
|---------|------------------------------------------|
| _____   | _____                                    |
| Date    | By: Dale F. Doughty, Acting 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.01 **12345.00**, for the **Hot Mix Asphalt Overlay** in the town/city of **South Nowhere**, 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, 2006**. 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, March 2020 Edition* 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 (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, March 2020 Edition, Standard Details March 2020 Edition*, 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 March 2020 Edition* (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, March 2020 Edition, Standard Details March 2020 Edition*, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

**PIN 012345.00 South Nowhere, 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, March 2020 Edition*, 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 March 2020 Edition* 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 with their bid.

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.

\_\_\_\_\_  
Date

\_\_\_\_\_  
(Witness Sign Here)  
Witness

CONTRACTOR  
\_\_\_\_\_  
(Sign Here)  
(Signature of Legally Authorized Representative  
of the Contractor)

\_\_\_\_\_  
(Print Name Here)  
(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: Bruce A. Van Note, Commissioner

\_\_\_\_\_  
(Witness)

BOND # \_\_\_\_\_

CONTRACT PERFORMANCE BOND  
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_  
\_\_\_\_\_ **in 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:

Signature.....  
Print Name Legibly .....

Signature .....  
Print Name Legibly .....

SURETY ADDRESS:

.....  
.....  
.....

TELEPHONE.....

SIGNATURES:

CONTRACTOR:

.....  
Print Name Legibly .....

SURETY:

.....  
Print Name Legibly .....

NAME OF LOCAL AGENCY:

ADDRESS .....

.....  
.....

BOND # \_\_\_\_\_

CONTRACT PAYMENT BOND  
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_  
\_\_\_\_\_ **in 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  
SECTION 104  
GENERAL RIGHTS AND RESPONSIBILITIES  
(Electronic Payroll Submission)  
(Payment Tracking)

104.3.8.1 Electronic Payroll Submission The prime contractor and all subcontractors and lower-tier subcontractors will submit their certified payrolls electronically on this contract utilizing the Elation System web based reporting. There is no charge to the contracting community for the use of this service. The submission of paper payrolls will not be allowed or accepted. Additional information can be found at <http://www.maine.gov/mdot/contractors/> under the first “Notice”.

104.3.8.2 Payment Tracking The prime contractor and all subcontractors and lower-tier subcontractors will track and confirm the delivery and receipt of all payments through the Elation System

Superseded General Decision Number: ME20240042

State: Maine

Construction Type: Highway

County: Somerset County in Maine.

#### HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

|                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022: | <ul style="list-style-type: none"><li>. Executive Order 14026 generally applies to the contract.</li><li>. The contractor must pay all covered workers at least \$17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.</li></ul>  |
| If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:         | <ul style="list-style-type: none"><li>. Executive Order 13658 generally applies to the contract.</li><li>. The contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.</li></ul> |

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

| Modification Number | Publication Date |
|---------------------|------------------|
| 0                   | 01/03/2025       |
| 1                   | 06/06/2025       |

\* ENGI0004-022 04/01/2025

|                           | Rates    | Fringes |
|---------------------------|----------|---------|
| POWER EQUIPMENT OPERATOR: |          |         |
| Grader/Blade, Milling     |          |         |
| Machine.....              | \$ 30.17 | 13.80   |

\* SUME2014-037 06/23/2017

|                                   | Rates       | Fringes |
|-----------------------------------|-------------|---------|
| CARPENTER, Includes Form Work.... | \$ 18.34    | 2.84    |
| HIGHWAY/PARKING LOT STRIPING:     |             |         |
| Laborer.....                      | \$ 14.80 ** | 1.27    |
| IRONWORKER, REINFORCING.....      | \$ 16.27 ** | 0.00    |
| LABORER: Asphalt, Includes        |             |         |
| Raker, Shoveler, Spreader and     |             |         |
| Distributor.....                  | \$ 15.40 ** | 2.69    |
| LABORER: Common or General.....   | \$ 14.42 ** | 2.68    |
| LABORER: Landscape.....           | \$ 18.69    | 2.70    |
| LABORER: Wheelman.....            | \$ 15.64 ** | 4.29    |
| OPERATOR:                         |             |         |
| Backhoe/Excavator/Trackhoe.....   | \$ 18.80    | 4.16    |
| OPERATOR: Bobcat/Skid             |             |         |
| Steer/Skid Loader.....            | \$ 21.66    | 4.91    |
| OPERATOR: Broom/Sweeper.....      | \$ 19.09    | 5.20    |
| OPERATOR: Bulldozer.....          | \$ 17.30 ** | 3.50    |
| OPERATOR: Loader.....             | \$ 18.59    | 5.53    |
| OPERATOR: Mechanic.....           | \$ 22.07    | 8.73    |
| OPERATOR: Paver (Asphalt,         |             |         |
| Aggregate, and Concrete).....     | \$ 20.92    | 6.19    |
| OPERATOR: Screed.....             | \$ 19.02    | 4.82    |
| OPERATOR: Roller (Earth).....     | \$ 16.43 ** | 3.40    |
| OPERATOR: Roller Asphalt.....     | \$ 21.56    | 5.42    |
| TRAFFIC CONTROL: Flagger.....     | \$ 9.38 **  | 0.00    |
| TRAFFIC CONTROL:                  |             |         |
| Laborer-Cones/                    |             |         |
| Barricades/Barrels -              |             |         |
| Setter/Mover/Sweeper.....         | \$ 17.47 ** | 4.80    |
| TRUCK DRIVER: Dump Truck.....     | \$ 15.07 ** | 5.15    |
| TRUCK DRIVER: TackTruck.....      | \$ 20.18    | 7.75    |

WELDERS - Receive rate prescribed for craft performing

operation to which welding is incidental.

\*\*\*\*\*  
\*\* Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.75) or 13658 (\$13.30). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

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) (iii)).

-----  
The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

#### Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes

over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

#### Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE:

UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

#### Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

#### State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

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#### WAGE DETERMINATION APPEALS PROCESS

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

- a) a survey underlying a wage determination

- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to [davisbaconinfo@dol.gov](mailto:davisbaconinfo@dol.gov) or by mail to:

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to [BCWD-Office@dol.gov](mailto:BCWD-Office@dol.gov) or by mail 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 an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to [dba.reconsideration@dol.gov](mailto:dba.reconsideration@dol.gov) or by mail 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 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.

=====

END OF GENERAL DECISION"

**SPECIAL PROVISIONS**  
**SECTION 104**  
**Utilities**

**UTILITY COORDINATION**

The Contractor has primary responsibility for coordinating their work with utilities after contract award. The Contractor shall communicate directly with the utilities regarding any utility work necessary to maintain the Contractor's schedule and prevent project construction delays. The Contractor shall notify the resident of any issue.

**THE CONTRACTOR SHALL PLAN AND CONDUCT WORK ACCORDINGLY.**

**MEETING**

A pre-utility meeting, as defined in Subsection 104.4.6 of the Standard Specifications, **is** required.

**GENERAL INFORMATION**

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

Utilities have been notified and shall be furnished with a project booklet and a plan set electronically.

| Utility Overview & Contact Information                      |        |            |                                 |                      |
|-------------------------------------------------------------|--------|------------|---------------------------------|----------------------|
| Utility                                                     | Aerial | Subsurface | Contact Person                  | Contact Phone        |
| Consolidated Communications of Northern New England Company | X      |            | Marty Pease                     | 272-7993             |
| Central Maine Power                                         | X      |            | Craig Bate                      | 578-2062             |
| Spectrum-Charter Communications                             | X      |            | Jeff Greenwald                  | 478-1423             |
| Northern Light Health (Pittsfield hospital)                 | X      |            | Walter Hilenski<br>Ryan Paradis | 973-5965<br>951-4101 |
| Town of Pittsfield _water/sewer departments                 |        | X          | Huey Morse<br>Travis Jones      | 322-1754<br>479-3330 |

Temporary utility adjustments **are not** anticipated as part of this project. If any unexpected utility relocations become necessary, they shall be scheduled in compliance with Section 104 of the Standard Specifications and shall be performed by the appropriate utility company in conjunction with the work by the Contractor. All work shall be done at the Contractor's request and expense, with no additional cost or schedule impacts to the Department.

Any adjustments shall be made by the respective utility unless otherwise specified herein.

Unless otherwise specified, any subsurface utility facilities shown on the project plans represent approximate locations gathered from available information. The Department cannot certify the level of accuracy of this data. Subsurface facilities indicated on the topographic sheets (plan views) have been collected from historical records and/or on-site designations provided by the respective utility companies. Subsurface facilities indicated on the cross-sections have been carried over from the plan view data and may also include further approximations of the elevations (depths) based upon straight-line interpolation from the nearest manholes, gate valves, or test pits.

All clearing and tree removal in areas where utilities are involved must be completed before the utilities are able to relocate their facilities.

All adjustments are to be made by the respective utilities unless otherwise specified herein.

Fire hydrants shall not be disturbed or connected for any reason unless appropriate notification/coordination has occurred through the utility representative.

Utility working days are Monday through Friday. Times are estimated on the basis of a single crew for each utility. Any times and dates mentioned are **estimates only** and dependent upon favorable weather, working conditions, and freedom from emergencies.

The Contractor shall notify all utility companies **ten (10) working days** prior to beginning any work on this project.

*\*\* Specific information regarding the line voltage can be obtained from Central Maine Power\*\**

### **AERIAL**

Aerial utility adjustments **are** anticipated as part of this project. If any unexpected utility relocations become necessary, they shall be scheduled in compliance with Section 104 of the Standard Specifications and shall be done by the utilities in conjunction with the work by the Contractor.

Attention needs to be given to the existing aerial utilities service lines crossing the highway corridor. Each of the existing service lines provides a source of power and/or communication to the surrounding properties.

The Contractor shall coordinate with the utility representative for horizontal alignment/offset of the new pole set locations along the project corridor. The Contractor and the utility representative shall document changes to the new pole set locations from the below pole list and discuss the changes with the MaineDOT resident prior to proceeding with the new pole set installations.

The Contractor is responsible for providing acceptable access to the new pole set locations along the project corridor. The Contractor shall perform the necessary cut/fill work (plus/minus 2 feet) and provide a schedule for sequencing the installation for the new pole sets along the project corridor. This schedule/sequencing information needs to be provided prior to the pre-utility meeting.

**Summary:**

| Utility                                                     | Summary of Work |                      |                            |              | Estimated Working Days |
|-------------------------------------------------------------|-----------------|----------------------|----------------------------|--------------|------------------------|
|                                                             | Pole Set        | New Wires/<br>Cables | Trans.<br>Wires/<br>Cables | Remove Poles |                        |
| Consolidated Communications of Northern New England Company | X               |                      | X                          | X            | 32                     |
| Central Maine Power                                         |                 |                      | X                          |              | 24                     |
| Spectrum-Charter Communications                             |                 |                      | X                          |              | 15                     |
| <b>Total:</b>                                               |                 |                      |                            |              | <b>71</b>              |

**Utility Specific Information:**

**Consolidated Communications of Northern New England Company:**

Consolidated Communications of Northern New England Company has two (2) aerial communication lines existing along the corridor. Consolidated is responsible for installing new pole sets (39 total) and removing all existing abandoned/cut-off pole sets (46 total) after all the aerial line new connections have occurred. Consolidated aerial scope includes connecting/splicing in new aerial lines and/or transferring existing aerial lines, as applicable, to new pole sets. Consolidated shall be coordinating an acceptable date with Spectrum for when they can begin connecting their aerial lines. The Contractor is responsible for coordinating the locations of the new pole sets with the Consolidated representative. Consolidated shall coordinate with the property owners their service connections. See the pole list below for specific stationing and offset locations of the new pole sets. Consolidated shall require **ten (10) working days** notification to schedule their work. See the above table for Consolidated estimated workdays.

**Central Maine Power:**

Central Maine Power has three-phase (4 total) aerial power lines existing along the corridor. These aerial power lines shall be transferred to new pole sets. CMP shall coordinate with the property owners their service connections. CMP shall require **ten (10) working days** notification to schedule their work. See the above table for CMP estimated workdays.

**Spectrum-Charter Communications:**

Spectrum-Charter Communications has an aerial communication line existing along the corridor. Spectrum shall be coordinating an acceptable date with CMP for when they can begin transferring their existing aerial line to the new pole sets. Spectrum shall coordinate with the property owners their service connection. Spectrum shall require **ten (10) working days** notification to schedule their work. See the above table for Spectrum estimated workdays.

**Northern Light Health (Pittsfield hospital):**

Northern Light Health has an aerial communication line existing along the corridor from the hospital to Leighton Street intersection; and continuing along Leighton Street. No impacts/adjustments are anticipated for Northern Light Health facility.

**NOTE: ALL EXISTING/NEW OFFSET MEASUREMENTS, ON THE BELOW LIST, ARE TO THE FACE OF POLES (EXISTING/NEW) FROM PLAN CENTERLINE ALIGNMENT.**

**Pole List:**

|                                                       | Existing Pole Description | Existing Pole Centerline Station | Left/ Right | Existing Offset from Centerline (ft) | New Pole Centerline Station | Left/ Right | New Offset from Centerline (ft) | Cut/ Fill (ft) | Comments              |
|-------------------------------------------------------|---------------------------|----------------------------------|-------------|--------------------------------------|-----------------------------|-------------|---------------------------------|----------------|-----------------------|
| Pole List Starts                                      |                           |                                  |             |                                      |                             |             |                                 |                |                       |
| 1                                                     | 1/10/507                  | 54+98                            | X           | 32.4                                 |                             |             |                                 |                | ok                    |
| PROJECT START (station 56+50)                         |                           |                                  |             |                                      |                             |             |                                 |                |                       |
| 2                                                     | 11/506                    | 56+56                            | X           | 20.8                                 | 56+55                       | X           | 27                              |                | new pole #1           |
| 3                                                     | 11S/506S                  | 56+56+/-                         | X           | 70.0+/-                              | 56+56                       | X           | 22                              |                | new pole #2           |
| 4                                                     | 12S/505S                  |                                  |             |                                      | 57+97                       | X           | 18                              |                | new pole #3           |
| 5                                                     | 12/505                    | 58+00                            | X           | 26.8                                 | 57+98                       | X           | 27                              |                | new pole #4           |
| 6                                                     | 13/504                    | 59+19                            | X           | 23.7                                 | 59+00                       | X           | 27                              |                | new pole #5           |
| 7                                                     | 13S/504S                  | 59+36                            | X           | 16.3                                 |                             |             |                                 |                | remove pole           |
| 8                                                     | 503/14                    | 60+52                            | X           | 23.6                                 | 60+40                       | X           | 28                              |                | new pole #6           |
| 9                                                     | 502/15                    | 61+82                            | X           | 39.7                                 | 61+84                       | X           | 45                              |                | new pole #7           |
| 10                                                    | 502/15                    | 61+84                            | X           | 39.8                                 |                             |             |                                 |                | remove pole           |
| 11                                                    | 501/16                    | 63+02                            | X           | 103.1                                | 63+02                       | X           | 109                             |                | new pole #8           |
| Madawaska Ave intersection (station 63+21, left)      |                           |                                  |             |                                      |                             |             |                                 |                |                       |
| 12                                                    | 2/31                      | 64+19                            | X           | 37.4                                 |                             |             |                                 |                | ok/includes push-pole |
| 13                                                    | 3/30                      | 64+95                            | X           | 20.7                                 | 65+00                       | X           | 24                              |                | new pole #9           |
| 14                                                    | 4/29                      | 65+94                            | X           | 23.3                                 | 65+95                       | X           | 24                              |                | new pole #10          |
| 15                                                    | 2/28                      | 67+29                            | X           | 22.7                                 | 67+20                       | X           | 24                              |                | new pole #11          |
| Washington Street intersection (station 67+68, right) |                           |                                  |             |                                      |                             |             |                                 |                |                       |
| 16                                                    | 6/27                      | 68+49                            | X           | 22.9                                 | 68+25                       | X           | 24                              |                | new pole #12          |
| 17                                                    | 7/26                      | 69+21                            | X           | 22.2                                 | 69+20                       | X           | 24                              |                | new pole #13          |
| Livington Street intersection (station 69+63, right)  |                           |                                  |             |                                      |                             |             |                                 |                |                       |
| 18                                                    | 8/25                      | 70+69                            | X           | 22.1                                 | 70+70                       | X           | 22                              |                | new pole #14          |
| 19                                                    | 9/24                      | 71+65                            | X           | 22.6                                 | 71+70                       | X           | 22                              |                | new pole #15          |
| 20                                                    | 11/23                     | 72+93                            | X           | 22.9                                 | 72+93                       | X           | 20                              |                | new pole #16          |
| 21                                                    | 12/22                     | 74+07                            | X           | 24.7                                 | 74+10                       | X           | 20                              |                | new pole #17          |
| 22                                                    | 13/21                     | 75+29                            | X           | 24.4                                 | 75+30                       | X           | 20                              |                | new pole #18          |
| 23                                                    | 13D/21.1                  | 75+41                            | X           | 21.9                                 |                             |             |                                 |                | ok                    |
| 24                                                    | 14/20                     | 76+39                            | X           | 24.5                                 | 76+40                       | X           | 20                              |                | new pole #19          |
| 25                                                    | 2/15/19                   | 77+52                            | X           | 24.8                                 | 77+50                       | X           | 20                              |                | new pole #20          |
| 26                                                    | 16/18                     | 79+07                            | X           | 22.1                                 | 79+15                       | X           | 20                              |                | new pole #21          |
| 27                                                    | 17/17                     | 81+03                            | X           | 21.2                                 |                             |             |                                 |                | ok                    |
| 28                                                    | 19S/16S                   | 82+47                            | X           | 23.5                                 |                             |             |                                 |                | ok                    |
| 29                                                    | 19/16                     | 82+49                            | X           | 20.9                                 | 82+50                       | X           | 20                              |                | new pole #22          |
| 30                                                    | 16.1                      | 82+50                            | X           | 42.9                                 |                             |             |                                 |                | ok                    |
| 31                                                    | 15.1                      | 83+74                            | X           | 42.7                                 |                             |             |                                 |                | remove pole           |
| 32                                                    | 20/15                     | 84+02                            | X           | 26.4                                 |                             |             |                                 |                | remove pole           |
| 33                                                    | 20/15                     | 84+04                            | X           | 28.0                                 |                             |             |                                 |                | ok                    |
| 34                                                    | 21/14                     | 85+51                            | X           | 27.3                                 |                             |             |                                 |                | ok                    |
| 35                                                    | 13S                       | 86+91                            | X           | 25.6                                 | 86+90                       | X           | 27                              |                | new pole #23          |
| 36                                                    | 22/13                     | 86+97                            | X           | 27.5                                 |                             |             |                                 |                | ok                    |
| 37                                                    | 23/12                     | 88+48                            | X           | 26.1                                 |                             |             |                                 |                | ok                    |
| Pole List Continues on Next Page                      |                           |                                  |             |                                      |                             |             |                                 |                |                       |

Pittsfield, Maine\_Routes #11/#100 (North Main Street)  
#021812.00\_Highway Rehabilitation  
08/25/25

|                                                     |            |           |   |   |         |           |   |   |       |                         |
|-----------------------------------------------------|------------|-----------|---|---|---------|-----------|---|---|-------|-------------------------|
| 38                                                  | 24/11      | 90+01     | X |   | 26.0    |           |   |   |       | ok                      |
| 39                                                  | 11.1       | 90+15     |   | X | 23.3    | 90+14     |   | X | 27    | new pole #24            |
| Leighton Street intersection (station 91+65, right) |            |           |   |   |         |           |   |   |       |                         |
| 40                                                  | 2/25/10    | 91+75     | X |   | 23.4    |           |   |   |       | ok                      |
| 41                                                  | 28/9       | 93+58     |   | X | 20.3    | 93+60     |   | X | 24    | new pole #25            |
| Dog Town Road (station 95+75+/-, left)              |            |           |   |   |         |           |   |   |       |                         |
| 42                                                  | 29/8       | 94+80     |   | X | 21.2    | 94+80     |   | X | 24    | new pole #26            |
| 43                                                  | 2/30/7     | 95+94     |   | X | 20.7    | 95+96     |   | X | 26    | new pole #27            |
| 44                                                  | TBD        |           |   |   |         | 96+14     | X |   | 69    | new pole #28            |
| 45                                                  | 21/1       | 96+60     | X |   | 36.5    |           |   |   |       | ok                      |
| 46                                                  | 6S         |           |   |   |         | 97+15     | X |   | 26    | new pole #29            |
| 47                                                  | 31/6       | 97+14+/-  |   | X | 21.0+/- | 97+20     |   | X | 26    | new pole #30            |
| 48                                                  | 32/5       | 98+68     |   | X | 22.2    | 98+70     |   | X | 26    | new pole #31            |
| 49                                                  | 34/4       | 100+41    |   | X | 22.5    | 100+40    |   | X | 26    | new pole #32            |
| 50                                                  | 35S        | 101+67    | X |   | 25.9    |           |   |   |       | ok                      |
| 51                                                  | 35/3       | 101+78    |   | X | 21.9    | 101+72    |   | X | 26    | new pole #33            |
| 52                                                  | 36/2       | 103+34    |   | X | 22.3    | 103+34    |   | X | 26    | new pole #34            |
| 53                                                  | 37/1       | 104+88    |   | X | 22.0    | 104+88    |   | X | 24    | new pole #35            |
| PROJECT END (station 105+55)                        |            |           |   |   |         |           |   |   |       |                         |
| Pittsfield/Detroit Town Line (station 105+62)       |            |           |   |   |         |           |   |   |       |                         |
| 54                                                  | 39/504     | 106+38    |   | X | 21.1    | 106+46    |   | X | 22    | new pole #36            |
| 55                                                  | 39.1/504.1 | 106+43    | X |   | 72      |           |   |   |       | remove pole             |
| 56                                                  | 39S/504S   |           |   |   |         | 106+46    | X |   | 32    | new pole #37            |
| Along Madawaska Avenue                              |            |           |   |   |         |           |   |   |       |                         |
| 57                                                  | 25/18      | 198+84+/- |   | X | 23.8+/- |           |   |   |       | remove pole/old cut-off |
| 58                                                  | 17/17      | 200+13    |   | X | 22.8    | 200+19    |   | X | 26    | new pole #38            |
| 59                                                  | 17/17      | 200+17+/- |   | X | 31.8+/- |           |   |   |       | remove pole             |
| Along Livingston Street                             |            |           |   |   |         |           |   |   |       |                         |
| 60                                                  | 1/01       | 100+50+/- | X |   | 19+/-   | 100+40+/- | X |   | 20+/- | new pole #39            |
|                                                     |            |           |   |   |         |           |   |   |       |                         |
| Pole List Ends                                      |            |           |   |   |         |           |   |   |       |                         |

## **SUBSURFACE**

Subsurface utility adjustments **are** anticipated as part of this project. If any unexpected utility relocations become necessary, they shall be scheduled in compliance with Section 104 of the Standard Specifications and shall be done by the utilities in conjunction with the work by the Contractor.

### ***Summary:***

| Utility                                    | Summary of Work                                                 | Estimated Working Days |
|--------------------------------------------|-----------------------------------------------------------------|------------------------|
| Town of Pittsfield_water/sewer departments | existing water/sewer facilities<br>temporary/removal/re-install | 25                     |

### ***Utility Specific Information:***

#### **Town of Pittsfield\_water/sewer departments:**

Town of Pittsfield owns/operates the existing subsurface water/sewer systems along the corridor. The water facilities exist the length of the project, terminating approximately 250' from the project end; and the sewer facilities exist to approximately 50' up-station from the Livingston Street intersection. Now these subsurface facilities that exist shall be removed/relocated/adjusted/etc., at intermediate locations, from the project start to approximately station 70+00.

The town shall be responsible for self-performing all necessary adjustments to the existing water valve covers (assuming a quantity of less than 15) including releasing them prior to the placement of all new pavement surfaces. The Contractor shall be responsible for raising the water valve covers to the final elevation when these water valve covers exist within a pavement surface. The payment associated with the Contractor raising the water valve covers shall be incidental to a paving bid item.

The Contractor is responsible for confirming with the town representative the existing subsurface facility locations, prior to performing excavation activities. Now, existing conditions could show evidence of abandoned water/sewer facilities (remaining from 2015 Olver Associates construction contract) still present from the project start (station 56+50) to surrounding the Livingston Street intersection (station 70+00). These abandoned facilities are not shown on the plan sheets.

The town shall be partnering with this MaineDOT highway project to delegate the water/sewer scopes (excluding water valve adjustments) to the Contractor. A “utility receivable agreement” has been developed/signed between the town and MaineDOT for these water/sewer work activities to be accomplished during this project. The town shall be responsible for inspection/direction to the Contractor performing the utility work activities as necessary. The Contractor shall be responsible for coordinating quality control/acceptance of the utility work scope (including quantities) with the town representative. The water/sewer scope associated with this project shall be constructed from plan sheets and specifications created by Olver Associates (consulting firm of record). See the title sheet, and sheets G-1/C-1/C-2/C-3 at the end of the MaineDOT plan set and the specifications in the appendix of the project booklet. The town shall require **ten (10) working days** prior notice to schedule their involvement. See the above table for the estimated working days.

#### **MAINTAINING UTILITY LOCATION MARKINGS**

The Contractor shall be responsible for maintaining the buried utility location markings following the initial application by the appropriate utility or their designated representative.

#### **UTILITY SIGNING**

Any utility working within the construction limits of this project shall ensure that the traveling public is adequately protected at all times. All work areas shall be signed, lighted, and traffic flaggers employed as determined by field conditions. All traffic controls shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, as issued by the Federal Highway Administration.

**SPECIAL PROVISION 105**  
**CONSTRUCTION AREA**

**Construction Areas** located in the Town of Pittsfield have been established by the Maine Department of Transportation (MDOT) in accordance with provisions of 29-A § 2382 Maine Revised Statutes Annotated (MRSA).

*The sections of highway under construction in Somerset County:*

**Project 021812.00** is located in the town of Pittsfield along Route 11, beginning approximately 400 feet south of Madawaska Avenue and extending northerly 0.91 of a mile.

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 Town of Pittsfield 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.

SPECIAL PROVISION  
SECTION 105  
General Scope of Work  
(Environmental Requirements)

- I. To protect Northern Long Eared Bat (*Myotis septentrionalis*) a federally Endangered species:

If the Contractor witnesses a bat (dead or alive), any activities that may injure any live bats must cease immediately and must contact the MaineDOT Environmental (ENV) Office for further coordination. Dead and/or injured bats will be collected by a MaineDOT biologist for further investigation or transfer to a veterinarian. Work in the vicinity of the live/dead bat sighting will not resume until the ENV office or project resident confirms it is acceptable to do so.

- II. To protect migratory birds pursuant to the Migratory Bird Act of 1918:

If the Contractor observes an active bird nest within the project limits, any activities that may disturb the nest or injure birds (i.e., nesting adults, chicks, eggs) must cease immediately, and the Contractor shall contact the ENV Office for further coordination

- III. Approvals:

Temporary Soil Erosion and Water Pollution Control Plan (SEWPCP)

**SPECIAL PROVISION**  
**SECTION 105**  
**GENERAL SCOPE OF WORK**  
**(LIMITATIONS OF OPERATIONS)**

1. The Contractor shall plan operations so that the Resident will have sufficient advance notification to provide the necessary inspection and testing. Sufficient notification is considered 48 hours.
2. The Contractor shall maintain a minimum one lane of one-way alternating traffic at all times.

SPECIAL PROVISION  
SECTION 105  
GENERAL SCOPE OF WORK  
(Buy America Certification)

105.11 Federal Requirements Add the following as the third and subsequent paragraphs:

“Prior to payment by the Department, the Contractor shall provide a certification from the producer of steel or iron, or any product containing steel or iron as a component, stating that all steel or iron furnished or incorporated into the furnished product was manufactured in the United States in accordance with the requirements of the Buy America provisions of 23 CFR 635.410, as amended. Such certification shall also include (1) a statement that the iron or steel product or component was produced entirely within the United States, or (2) a statement that the iron or steel product or component was produced within the United States except for minimal quantities of foreign steel and iron valued at \$ (actual value).

All manufacturing processes must take place domestically. Manufacturing begins with the initial melting and mixing, and continues through the coating stage. Any process which modifies the chemical content, the physical size and shape, or the final finish is considered a manufacturing process. These processes include rolling, extruding, machining, bending, grinding, drilling, and coating. “Coating” includes epoxy coating, galvanizing, painting, or any other coating that protects or enhances the value of the material.

A Buy America Certification is required from each manufacturer, fabricator, supplier, subcontractor, etc. that meets the “manufacturing” definition above.

Buy America does not apply to raw materials (iron ore and alloys), scrap, pig iron, or processed, pelletized, and reduced iron ore.”

SPECIAL PROVISION  
SECTION 105  
GENERAL SCOPE OF WORK  
(Build America, Buy America)

105.11 Other Federal Requirements Amend this section by adding the following:

This special provision was created for the Build America, Buy America Act (BABA) to expand the list of construction materials required to be manufactured in the United States beyond what is currently only required for steel/iron products. The Infrastructure Investment and Jobs Act (IIJA), Public Law No. 117-58 includes the Build America, Buy America Act. The Office of Management and Budget issued memorandum M-22-11 to provide guidance on the law which can be found here:

<https://www.whitehouse.gov/wp-content/uploads/2022/04/M-22-11.pdf>

All iron/steel, including the iron/steel in construction materials and manufactured products, must satisfy Buy America 23 CFR 635.410 requirements.

All construction materials, as defined in the following, that are permanently incorporated into federal-aid projects shall meet Build America, Buy America requirements.

For the purpose of this Specification, construction materials shall include an article, material, or supply that is or consists primarily of the following.

- Non-ferrous metals,
- Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables),
- Glass (including optic glass),
- Lumber, or
- Drywall.

All manufacturing processes for construction materials shall occur within the United States. The category of construction materials excludes cement and cementitious materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or additives.

Due to a nationwide waiver, BABA requirements do not apply to manufactured products for FHWA funded projects. Manufactured products are items that consist of two or more of the listed construction materials that have been combined through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed (including steel/iron) through a manufacturing process.

The Contractor shall certify in writing that all permanently incorporated Construction Materials for this contract meet the BABA requirements.

MaineDOT DBE Project Attainment Target (PAT)  
for this Project is **4.3%**

The MaineDOT seeks to meet the specified annual Disadvantaged Business Enterprise (DBE) usage goal set out by 49 CFR 26.45 through the efforts of contractors seeking to employ qualified DBE subcontractors. We seek to meet this goal by race neutral means and do not, at this time, use contract specific requirements for each project. We do however, understand the capacity of Maine's DBE community and the unique characteristics a project may have that would differ from the broad annual goal.

Taking this into consideration, the MaineDOT will review each project and develop an anticipated attainment or Project Attainment Target (PAT) based on several factors that are project specific. Those factors include:

- ☐ Scope of Work
- ☐ DBE availability according to Specification Item
- ☐ Geographic location
- ☐ DBE capacity

This PAT is developed to assist contractors to better understand the DBE participation that the MaineDOT can reasonably expect for a specific project. The PAT is NOT a mandate but an assessment of the DBE opportunities that this project could meet or exceed. MaineDOT anticipates that each contractor will make the best effort to reach or exceed the PAT for this project.

**SPECIAL PROVISION**  
**SECTION 107**  
**PROSECUTION AND PROGRESS**  
**(Contract Time)**

The Contractor will be allowed to commence work on this project anytime as long as all applicable plans required under this contract have been submitted, approved, and a pre-construction meeting is held.

The completion date for this contract is **June 18, 2027**.

Once operations commence, for every weekday not worked the Contractor will be charged liquidated damages per Section 107.7.2 of the Standard Specifications, excluding days lost to inclement weather, holidays, and approved absences.

All work schedule changes must be submitted for approval to the Department a minimum of 48 hours prior to the requested change.

Absences must be requested at least 72 hours in advance and are subject to Department approval based on existing roadway condition, paving deadlines, adherence to schedule, traffic restrictions, etc. The Contractor must assure that the roadway surface and signage are maintained for safe passage of the traveling public during any approved absences. The Contract Completion Date will not be modified due to approved absences.

**SPECIAL PROVISIONS**  
**SECTION 202**  
**REMOVING STRUCTURES AND OBSTRUCTIONS**  
**(Removing Pavement Surface)**

The March 2020 Revision of the Standard Specifications, Section 202-Removing Structures and Obstructions, subsection 202.061-Removing Pavement Surface, has been removed and replaced in its entirety by the following:

202.061 - Removing Pavement Surface The equipment for removing the bituminous surface shall be a power operated milling machine or grinder capable of removing bituminous concrete pavement to the required depth, transverse cross slope, and profile grade using an automated grade and slope control system. The controls shall automatically increase or decrease the pavement removal depth as required, and readily maintain desired cross slope, to compensate for surface irregularities in the existing pavement course. The equipment shall be capable of accurately establishing profile grades by referencing from a fixed reference such as a 30 foot minimum contact ski (floating beam), 24 foot non-contact ski (floating beam) with 3 or more sensors; or 3 non-contact sensors directly affixed at the fore, mid, and aft points of the milling machine. Systems designed to incorporate a contact sensor located at the mid-point of the milling machine in lieu of the non-contact sensor will be permitted. Grade control sensors shall all be located on the same side. A single sensor, contact or otherwise, shall not be permitted unless otherwise approved by the Department.

The rotary drum shall be a minimum of 7 feet in width and utilize carbide tip tools at a minimum triple wrap configuration. The difference in height from the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed  $\frac{1}{4}$  inch. The forward speed of the milling machine shall be adjusted to produce a milled surface meeting the groove spacing, groove depth, and surface tolerance requirements of this specification. The tools on the revolving cutting drum must be continually maintained and shall be replaced as warranted to provide a uniform pavement texture. The Department may evaluate the texture of the milled surface for information purposes by performing the Sand Patch test according to ASTM E 965.

The Contractor shall locate and remove all objects in the pavement through the work area that would be detrimental to the milling or grinding machine. Any structures or obstructions left within the travel lane or shoulders shall have tapers installed according to Standard Detail 202(01). The finished milled surface will be inspected before being accepted, and any deviations in the profile exceeding  $\frac{1}{2}$  inch under a 16 foot string line or straightedge placed parallel to the centerline will be corrected. Any deviations in the cross-slope that exceed  $\frac{3}{8}$  inch under a 10 foot string line or straightedge placed transversely to centerline will be corrected. All corrections will be made with approved methods and materials. Any areas that require corrective measures will be subject to the same acceptance tolerances. Excess material that becomes bonded to the milled surface will be removed to the Resident's satisfaction before the area is accepted.

On roadways with adjoining lanes carrying traffic, the Contractor shall remove the pavement surface in each lane per the conditions in Table 1, unless otherwise noted by the Department in Special Provision, Section 105 – Limitations of Operations.

TABLE 1: MILLING CONDITIONS FOR ADJOINING LANES

| Depth<br>(At<br>Centerline)          | Milling Conditions                                                                                                                                                                                                                                                                               |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vertical Longitudinal Joint</b>   |                                                                                                                                                                                                                                                                                                  |
| 2" and less                          | The Contractor may remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before the end of the following calendar day.                                                                                      |
| Greater than 2"                      | The Contractor shall remove the pavement over the full width of the traveled way section being paved that day.                                                                                                                                                                                   |
| <b>12:1 Tapered Centerline Joint</b> |                                                                                                                                                                                                                                                                                                  |
| 1 ½" to 2"                           | The Contractor may remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before weekend or holiday suspension. A maximum unmatched centerline joint length of 0.5 miles will be permitted over the weekend. |
| Greater than 2"                      | The Contractor shall remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before the end of the following calendar day.                                                                                    |

The Contractor will be required to remove the pavement over the full width of the mainline traveled way, regardless of highway type, cut depth, or longitudinal joint type prior to Memorial Day, July 4<sup>th</sup>, Labor Day, suspensions exceeding three days, or other dates as specified by Special Provision, Section 105 – Limitations of Operations.

The Contractor will also be responsible for installing additional warning signage that clearly defines the centerline elevation differential hazard. Unless otherwise addressed in the contract, the Contractor shall install additional centerline delineation such as a double RPM application, or temporary painted line. The Traffic Control Plan shall be amended to include this option and the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of 0.50 mile for the entire length of effected roadway section. If this option is utilized, all additional signing, labor, traffic control devices, or incidentals will not be paid for directly, will be considered incidental to the appropriate 652 items.

On roadways with immediately adjacent shoulders, the Contractor shall remove the pavement surface in each lane per the conditions in Table 2, unless otherwise noted by the Department in Special Provision, Section 105 – Limitations of Operations.

TABLE 2: MILLING CONDITIONS FOR THE EDGE OF TRAVELED WAY

| Depth (At Edge of Traveled Way) | Conditions                                                                                                                                                                                                 |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2" and less                     | The Contractor may leave a vertical edge joint exposed for up to <b>21 days</b> after milling is performed. The Contractor shall treat vertical edge joints exposed beyond 21 days per the criteria below. |
| Greater than 2"                 | The Contractor shall treat vertical edge joints exposed per the criteria below.                                                                                                                            |

When required by Table 2, the Contractor shall treat vertical edge joints through one of the options below:

1. The vertical edge shall be tapered to a zero edge by means of milling a 12:1 transition from the edge of traveled way onto the shoulder before opening the lane to traffic. Tapers shall be removed to form a vertical edge prior to the placement of the new pavement course. No additional payment will be made for tapers, or taper removal.
2. An additional 2 feet of pavement shall be removed from the shoulder to eliminate the vertical edge at the edge of travelway before opening the lane to traffic. Unless otherwise authorized by the Department, no additional payment will be made for the additional milling.
3. A pavement layer shall be placed to reduce the vertical edge to 1 inch or less before opening the lane to traffic.

As a minimum, the use of temporary painted line, or RPMs placed along the edge of traveled way at 200 foot intervals is required for all elevation differentials. When pavement milling is extended into the shoulder (including milled tapers), appropriate channelization devices shall be placed 2 feet outside the edge of the vertical face at intervals not exceeding 600 feet, and RPMs shall be placed on the remaining pavement surface along the vertical edge at 200 foot intervals. Uneven pavement signs shall be placed at a maximum spacing of ½ mile when any pavement milling operations leaves an exposed uneven pavement surface.

Weepers shall be ground across the full width sections adjacent shoulders or remaining pavement surface matching the milled travel way or shoulder milled depth to minimize water ponding in any lanes carrying traffic. Weepers shall typically be 18 - 24" inches in width, installed along each lane, at a frequency of approximately one per half mile at locations as directed by the Resident or in areas that will provide drainage for the milled areas. Installation of weepers will not be paid for directly but will be considered incidental to the contracts pavement removal item. The replacement of mix in the weeper locations shall be performed concurrently within the pavement placement operation closure using the appropriate HMA item produced for the Contract or a MaineDOT approved 9.5mm HMA. There will be no separate payment for repaving the weeper locations as they are considered incidental to the square yard price of the contracts pavement removal item.

The milled surface shall be cleaned of all material resulting from the pavement removal operation. Loaders, skid steers, motorized side cast brooms, sweeper pick up brooms, vacuum pick up machines and hand labor may be used in any number or sequence as determined by the Contractor in order to clean the milled surfaces to the satisfaction of the Department before acceptance and opening the area up to traffic. The use of compressed air may be required to loosen any bonded materials from the surface to aid in cleaning.

Any areas of concern, such as de-lamination or pot-holing shall be identified on a continuous basis as milling progresses. Proper corrective action will be determined by the Resident and paid for under the appropriate contract items, and if required, completed prior to opening lane to traffic. Any issues that arise up to 7 calendar days after being milled will be the responsibility of the MaineDOT unless otherwise noted in Special Provision Section 105 – Limitations Of Operations.

## Contractor Quality Control

Quality Control The Contractor shall develop and submit a Quality Control Plan (QCP) that addresses the methods to be used, equipment to be used, work accomplished (quantity measurements and tracking) as well as methods of cleaning and protection of the work as it is completed. The Contractor shall control the work and operate in accordance with the approved QCP in order to complete work meeting the contract requirements. The Contractor shall not begin pavement removal operations until the Department approves the QCP in writing.

Quality Control The QCP shall meet the requirements of Section 106.6 – Acceptance and this Section. The QCP shall address any items that affect the quality of the operation, and shall include the following personnel meeting these minimum requirements:

- a. QCP Administrator – The QCP Administrator must be a full-time employee of or a consultant engaged by the prime contractor or pavement removal subcontractor. The QCP Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the QCP. The QCP Administrator (or their designee in the QCP Administrator's absence) may not be required to be onsite during all work activities but shall be available to communicate with the Department as needed.
- b. Onsite Representative - The Onsite Representative (OR) shall be onsite and work directly with the crew as needed. The OR shall perform quality control inspections or measurements at the job site to assure that layout, pavement removal depth, width, profile and final surface tolerance meet the requirements of the contract.

The QCP shall detail the coordination of the activities of the Plan Administrator, and the OR. The Superintendent shall be named in the QCP if different than the OR, and the responsibilities for successful implementation of the QCP within the companies' activities shall be outlined.

The QCP shall address any items that may impact the quality of pavement removal activities and final milled pavement surface including, but not limited to, the following:

a. General Requirements:

- Name of QCP Administrator
- Description of corrective action processes
- Remediation of defective work

b. Quality Control Plan requirements

- Name of Onsite Representative(s)
- Equipment make and model (including product sheet)
- Width of cutting drum
- Automation make, model and series (including product sheet)

- Describe automation set up, including methods to ensure pavement removal operations meet the requirements of the contract using control points, reference points, and cut points as well as any slope or cut depth transitions.
- Describe project layout, including centerline and any edge cut control, any off-set control layout to maintain or recreate centerline or edge cut control, cross slope transitions, or variable depth transitions required to perform the work
- Procedures to remove pavement surface to the required depth, width and profile
- Procedures to monitor pavement removal activities to ensure the final milled surfaces meet surface tolerance and texture requirements
- General cleaning operation activities including equipment to be used to sweep, vacuum and prepare surfaces for traffic use
- Procedures to ensure that traffic can transition from the milled to non-milled surfaces safely.
- Procedures to protect the milled surfaces from deterioration from construction activities, traffic or weather impacts

A summary of the day's results including a quantity report, equipment used, and environmental conditions will be recorded and signed by the OR and presented to the Department's representative by 1 PM the following working day.

Failure to adhere to the QCP, replace or repair defective or non-conforming equipment, or adjust material or installation procedures in an effort to produce work that meets the contract requirements will result in a notification of a quality control violation resulting in monetary penalties.

A letter describing the violation shall be provided to the Contractor which will result in a mandatory work suspension and a reduction in payment as shown in Table 106.4A below. The Contractor shall submit a letter to the Department that details the corrective action made to address the violation(s) in its Quality Control Plan. Work may resume when the Department is satisfied the corrective action will result in adherence to the Quality Control Plan.

Table 106.4 A - Quality Control Pay Reduction

| Quality Control Plan Value* |                  | Pay Reduction |          |                  |
|-----------------------------|------------------|---------------|----------|------------------|
| From More Than              | To and Including | 1st           | 2nd      | 3rd & Subsequent |
| \$0                         | \$500,000        | \$1,000       | \$2,000  | \$4,000          |
| \$500,000                   | \$1,000,000      | \$2,000       | \$4,000  | \$8,000          |
| \$1,000,000                 | \$3,000,000      | \$5,000       | \$10,000 | \$20,000         |
| \$3,000,000                 | and more         | \$10,000      | \$20,000 | \$40,000         |

\* The Quality Control Plan Value is the total Bid value of all items covered by a Quality Control Plan, as detailed in the applicable specification or Special Provision.

Pay reductions for failure to comply with the approved QCP are cumulative, and the Department will deduct any pay reductions from amounts otherwise due the Contractor. These pay reductions are intended to encourage the Contractor to comply with its approved QCP, and are not necessarily related to the quality of the work provided.

Basis of Payment

The square yard or hourly rental contract price will be full compensation for development and submittal of the QCP, mobilizing to the site, de-mobilizing from the site, labor, supervision, cleaning of the milled surface, management of the items covered by the QCP, and all other incidentals required to complete the work. Hauling and stockpiling of the material will not be paid for directly, but will be considered incidental to the milling items.

Square Yard: Payment will be made at the contract unit price for the number of square yards removed.

Hourly: Payment will be made at the contract unit price for the number of hours of operation removing pavement surface as directed by the Resident. The equipment used for pavement removal shall be operated at the minimum speed of 50 fpm, unless the Resident directs otherwise for milled surface quality reasons, or traffic control limitations impact pavement removal operations, or site conditions make operations at the prescribed rate unreasonable. Trimming to create a vertical face along curb line, guardrail, or around structures will be considered incidental to the 202.202 items. Additional trimming beyond the incidental work described will be paid under the appropriate rental items as listed in the Contract.

Pay Item

Pay Unit

202.202 Removing Pavement Surface  
202.20201 Removing Pavement Surface (Hourly)

S.Y.  
Hour

## SECTION 401 - HOT MIX ASPHALT PAVEMENT

**401.01 Description** The Contractor shall furnish a uniformly blended, homogeneous mixture placed as 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 MaineDOT Policies and Procedures for HMA Sampling and Testing.

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

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

**401.03 Composition of Mixtures** The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), approved antistrip, warm mix additive, and/or mineral filler if required. HMA shall be designed and tested according to AASHTO R 35 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). Unless otherwise noted in Special Provision 403 - Hot Mix Asphalt Pavement, the design, verification, Quality Control, and Acceptance tests for this mix will be performed at 65 gyrations.

TABLE 1: VOLUMETRIC DESIGN CRITERIA

| Design<br>ESAL's<br>(Millions) | Required Density<br>(Percent of G <sub>mm</sub> ) |                     |                  | Voids in the Mineral Aggregate<br>(VMA) (Minimum Percent) |      |      |      |      | Voids Filled<br>with Binder<br>(VFB)<br>(Minimum %) | Fines/Eff<br>.<br>Binder<br>Ratio |
|--------------------------------|---------------------------------------------------|---------------------|------------------|-----------------------------------------------------------|------|------|------|------|-----------------------------------------------------|-----------------------------------|
|                                |                                                   |                     |                  | Nominal Maximum Aggregate Size<br>(mm)                    |      |      |      |      |                                                     |                                   |
|                                | N <sub>initial</sub>                              | N <sub>design</sub> | N <sub>max</sub> | 25.0                                                      | 19.0 | 12.5 | 9.5  | 4.75 |                                                     |                                   |
| < 3.0                          | ≤90.5                                             | 96.0                | ≤98.0            |                                                           |      |      |      |      | 65-80*                                              | 0.6-1.2                           |
| 3 to <10                       | ≤89.0                                             |                     |                  | 13.0                                                      | 14.0 | 15.0 | 16.0 | 16.0 |                                                     |                                   |
| > 10                           |                                                   |                     |                  |                                                           |      |      |      |      |                                                     |                                   |

\*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.

The Contractor shall submit a JMF to the Department for each mixture to be supplied. The JMF will be approved by the Department in accordance with the MaineDOT HMA Policies and Procedures for HMA Sampling and Testing Manual. At the time of JMF submittal, the Contractor shall identify and make available the stockpiles of all proposed aggregates at the plant site. There must be a minimum of 150 ton for coarse aggregate stockpiles and 75 ton for fine aggregate stockpiles before the JMF may be submitted. The Contractor shall provide aggregate samples to the Department unless otherwise required. 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. 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 for a JMF as outlined in the MaineDOT HMA Policies and Procedures for HMA Sampling and Testing Manual: Mix Design Approval Section.

The Contractor shall submit a new JMF for approval each time a change in material source or materials properties is proposed. The same approval process shall be followed. The cold feed percentage of any aggregate may be adjusted up to 10 percentage points from the amount listed on the JMF, however no aggregate listed on the JMF shall be eliminated. The cold feed percentage for RAP may be reduced up to 10 percentage points from the amount listed on the JMF and shall not exceed the percentage of RAP approved in the JMF or for the specific application under any circumstances.

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

401.04 Temperature Requirements The temperature of the mixture shall conform to the tolerances in Table 2 as measured at the truck at the mixing plant and at the paver unless otherwise authorized by the Department.

TABLE 2: ALLOWABLE TEMPERATURE RANGES

| PGAB Grade(s)       | Temperature Range (°F) |
|---------------------|------------------------|
| PG58-28 / PG64-28   | 275-325                |
| PG64E-28 / PG70E-28 | 285-335                |

401.05 Performance Graded Asphalt Binder The Contractor shall utilize either a PG58-28, PG64-28, PG64E-28, PG70E-28, or other grade as specified in the 403 Special Provision. The Contractor shall utilize a PG64-28 if no liquid grade is specified within the 403 Special Provision.

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.

TABLE 3: SEASONAL AND TEMPERATURE LIMITATIONS

| Use                                                                                                                     | Minimum Ambient Air Temperature | Zone 1 Allowable Placement Dates          | Zone 2 Allowable Placement Dates          |
|-------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------|-------------------------------------------|
| Surface course (travelway & adjacent shoulders*) less than 1 in. thick placed during conditions defined as “night work” | 50°F                            | June 1 to Saturday following September 1  |                                           |
| Surface course (travelway & adjacent shoulders*) less than 1 in. thick                                                  | 50°F                            | May 15 to Saturday following September 15 |                                           |
| Travelway surface course greater than or equal to 1 in. thick                                                           | 50°F                            | May 1 to Saturday following October 1     | April 15 to Saturday following October 15 |
| HMA for surface course on bridge decks                                                                                  | 50°F                            | May 1 to Saturday following October 1     | April 15 to Saturday following October 15 |
| HMA for base or shim course on bridge decks                                                                             | 50°F                            | April 15 to November 15                   |                                           |
| HMA for use other than travelway surface course                                                                         | 40°F                            | April 15 to November 15                   |                                           |
| HMA for curb, driveways, sidewalks, islands, or other incidentals                                                       | 40°F                            | N/A                                       | N/A                                       |
| HMA produced with an approved WMA technology for base or shim course                                                    | 35°F                            | April 15 to November 15                   |                                           |
| *Adjacent shoulders shall be considered shoulders paved in the same operation as the travelway.                         |                                 |                                           |                                           |

The ambient air temperature shall be determined by an approved thermometer placed in the shade at the paving location. Unless otherwise specified, the Contractor shall not place Hot Mix Asphalt Pavement on a wet or frozen surface regardless of the ambient air temperature. The Hot Mix Asphalt Pavement produced with an approved WMA technology shall meet the requirements of section 401.04 - Temperature Requirements, unless otherwise approved by the Department. For the purposes of this Section, the traveled way includes truck lanes, ramps, approach roads and auxiliary lanes.

#### 401.07 Hot Mix Asphalt Plant

401.071 General Requirements HMA plants shall conform to AASHTO M 156, Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures with exception of Section 4.2.1, 4.2.2, 4.3.4, 4.3.5, and 4.12.2.

All HMA plants will be inspected annually by the Department prior to producing HMA for Department projects. The Contractor shall provide the Department at least 72 hours' notice that the plant is ready for inspection. The Contractor shall equip the plant with ladders and platforms that are accessible and safe to obtain samples of PGAB, aggregate and mix from the relevant tanks, collector belts and haul units. Silo storage time of mixtures shall not exceed 36 hours.

401.072 Stockpiles The Contractor shall provide sufficient space for stockpiles and maintain a minimum of supply for 2 days production of all aggregate products used in MaineDOT approved mix designs currently under production. A minimum stockpile supply of 100 ton (70 yards) shall be

maintained at all times. The Contractor shall construct stockpiles to prevent intermingling and to minimize segregation. All stockpiles used in MaineDOT mixes shall be identified with weatherproof signs at least 12" high and 24" wide, with reflective lettering at least 2" high.

401.073 Cold Feeds Cold Feed Bins will have bin dividers to keep aggregate products separated. Adequate means must be provided for obtaining samples of the combined flow of all Cold feed bins.

401.074 Dryer Dryer shall be capable of heating aggregate to required mixing temperature and shall be in good operation and condition. Dryer shall be subject to annual inspection prior to start-up. The Contractor shall dry and heat the aggregates for the HMA to the required temperature, adjusting flames to avoid damaging the aggregates. The Contractor shall provide the Department a minimum period of 72 hours to inspect the dryer and provide at least 24 hours' notice that the dryer is ready for inspection.

401.075 Asphalt Binder The plant shall include a heating system and insulation to maintain the asphalt binder at a uniform temperature for proper mixing and compaction. A thermometer shall be provided in the asphalt binder line. No direct flame may come in contact with tank. A sampling valve shall be provided in the circulation line downstream of any binder additive used unless otherwise approved by the Department. The Contractor shall drain down the asphalt as low as safely possible in any tank that will be switched to a new source or grade prior to adding the new PGAB.

401.076 Additives Additives (WMA, anti-strip, etc.) introduced into the binder at the HMA plant shall be introduced per the supplier's recommendations and shall be approved by the Department. The system for introducing additives shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all production rates and batch sizes. Additive introduction systems shall be controlled by a proportioning device to the amount required on the JMF plus or minus 0.1% of the target. Additive introduction systems shall be interlocked with the plant and the recordation (batch tickets or drum recordation) shall display the additive and the weight and percentage added. A means for sampling the PG binder with additive introduced will be provided. The sampling point shall be after the additive is mixed with the PGAB before entering the drum or mixer unit.

#### 401.077 Batch Plants

Hot Bins Hot bins shall provide uniform continuous operation and be in good working condition. The plant shall be able to provide samples of hot bins upon request. Overflow shall be provided for each hot bin. Hot bin gates shall close without leaking. Bin walls must prevent intermingling between bins. Each hot bin shall have low level indicators which will alert the operator when the bin is empty.

Mixer Unit Clearance between blades and liner shall be 1" maximum, unless the aggregate exceeds 1 ¼" then the clearance shall be 1 ½". The spray bar length shall be at least 75% of the mixer length. The mixer unit shall be a twin pug mill-type mixer capable of mixing continuously for at least 45 seconds after all materials have been introduced into the mixer. The blades in the mixer shall be capable of producing a homogenous mixture. If the mixer is not enclosed, it shall be equipped with an adjustable hood to prevent loss of dust by dispersion. The mixer unit shall be subject to annual inspection prior to removal of safety features and being readied for service. The Contractor shall provide the Department the opportunity to inspect the mixer unit prior to the

annual inspection. The Contractor shall provide the Department a minimum period of 72 hours to inspect the mixer unit and provide at least 24 hours' notice that the mixer unit is ready for inspection.

Mineral Filler Mineral filler and fiber shall utilize separate bins and feed systems to store and proportion the required quantity into the mixture. The feed systems shall be accurate to no more than 10% of the required weight with a convenient and accurate means of calibration. Mineral filler and fiber shall be introduced in the weigh hopper and uniformly distributed prior to the injection of the asphalt binder.

Automation The HMA batch plant shall automatically batch, mix and discharges mixes. 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.

The HMA batch plant shall be operated within the following tolerances:

|                          |                              |
|--------------------------|------------------------------|
| Each aggregate component | +/- 1.5% cumulative, per bin |
| Mineral Filler           | +/- 0.5%                     |
| Bituminous Material      | +/- 0.1%                     |
| Zero return (aggregate)  | +/- 0.5%                     |
| Zero Return (AC)         | +/- 0.1%                     |
| Additives                | +/- 0.1%                     |

Recordation All plants shall be equipped with an approved digital recording device. The printer shall mark any weight on the ticket that exceeds tolerance. The delivery slip shall contain information required under Section 108.1.3 - Provisions Relating to Certain Measurements, Mass and paragraphs a, b, and c of Section 401.078.

#### 401.078 Drum Plants

Cold Feeds and Delivery System A scalper screen shall be used to remove oversize material. The accuracy of the belt scale shall be within +/- 1.0% of the actual weight being measured. The plant shall be capable of correcting for aggregate moisture. Mineral filler and fiber shall utilize separate bin(s) and feeder systems to store and proportion the required quantity into the mixture. The feed systems shall be accurate to no more than +/- 10% of the required weight with a convenient and accurate means of calibration. The plant shall be equipped with a single control to change all feed rates. Mineral filler and fiber shall be introduced such that dry mixing is accomplished no less than 18 inches prior to the injection of the asphalt binder. The Contractor shall ensure that the mineral filler does not become entrained in the exhaust stream of the dryer.

Binder System The flow of asphalt binder shall adjust automatically with dry aggregate weights. The Department will conduct an asphalt flow meter check annually and after each change of plant location. The flow meter check must be performed prior to producing mix for Department projects. The plant must be configured to provide a convenient means to check accuracy of the flow meter. The flow meter will be considered accurate if the measured weight is within 1% of actual weight.

Drum Mixer The plant shall be equipped with a diversion system where mix can be diverted at startup/shutdown and any time. The drum mixer shall be subject to annual inspection prior to removal of safety features and being readied for service. The Contractor shall provide the Department a minimum period of 72 hours to inspect the drum mixer while providing at least 72 hours' notice that the drum mixer is ready for inspection.

Recordation An approved automatic ticket printer system shall be used to print delivery slips. 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 dry aggregate weights and binder flow shall be recorded as well as mineral filler and all binder additives. The recordation of materials shall be printed a minimum of every ten minutes while in production.

The requirements of Section 108.1.3 f. - Delivery Slips, shall be met by the delivery slip printed by the automatic system, which accompanies each truckload, except for the following changes:

- a. The quantity information required shall be individual weights of each batch or total net weight of each truckload.
- b. Signatures (legible initials acceptable) of Weighmaster (required only in the event of a malfunction as described in 401.074 c.).
- c. The MaineDOT designation for the JMF.

401.079 Scales and Weight Checks Scales shall meeting the requirements of Section 108 - Payment. The scales shall be inspected and sealed by the State Sealer (or approved alternative) 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 50 pound masses for scale testing at batch plants. At Contractor's option, the Contractor can use one single test weight that has been checked on sealed scales. This weight shall be 1,000 lbs. or greater. 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. The inspector will notify the producer to take corrective action on any discrepancy over 1.0%. The producer may continue to operate for 48 hours under the following conditions.
  1. If the discrepancy does not exceed 1.5%; payment will still be governed by the printed ticket.
  2. If the discrepancy exceeds 1.5%, the plant will be allowed to operate as long as payment is determined by truck platform scale net weight.

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

- b. Where platform scales are not readily available, a check will be made to verify the accuracy and sensitivity of each scale within the normal weighing range and to assure that the interlocking devices and automatic printer system are functioning properly. If platform scales are not readily available, a weight with a known mass-verified and sealed annually by a licensed scale company, may be used by hanging weight from silo or surge hopper, at lower middle and upper third levels upon request to verify scale accuracy.
- 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** Units hauling HMA shall have tight, clean, and smooth metal bodies, which have been thinly coated with a small amount of approved release agent to prevent the mixture from adhering to the bodies. Release agents that dissolve or strip asphalts, including diesel fuel, will not be allowed.

All mix haul units shall have a cover of water repellent material capable of heat retention, which completely covers the mixture. The cover shall be securely fastened on the truck, unless unloading. Haul units shall have an opening on both sides near the midpoint of the body, at least 12 in above the bed, which will accommodate a thermometer stem.

**401.09 Pavers** The Contractor shall use pavers meeting the requirements of this section unless otherwise authorized by the Department. Pavers shall meet the requirements of Table 4: Paver Requirements.

TABLE 4: PAVER REQUIREMENTS

| Use                            | Paver Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Traveled Way & Auxiliary Lanes | Equipped with a 10 ft minimum main screed with activated extensions. The minimum tractor weight shall be 30,000 pounds.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                | Equipped with automatic grade and slope controls that 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 30 ft, a non-contact grade control with a minimum span of 24 ft, except that a 40 ft reference shall be used on interstate and divided highway projects. |
| All HMA Placement              | Self-contained, self-propelled units of sufficient class and size to place Hot Mix Asphalt Pavement in full lane widths specified in the contract on the main line, shoulder, or similar construction.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                | Equipped with a free-floating activated heated main screed with activated extensions. 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.                                                                                                                                                                                                                                                                                                                                                                                        |
|                                | Equipped with 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                | Operated in such a manner as to produce a visually uniform surface texture and a thickness within the requirements of Section 401.11 - Surface Tolerances. The screed assembly shall produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture.                                                                                                                                                                                                                                                                                                                                                   |

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 MaineDOT projects. On a daily basis, the Contractor shall perform density testing across that mat as detailed in Section 401.191 Quality Control - Method A, B & C.

401.10 Rollers Rollers shall be static steel, pneumatic tire, oscillatory, or approved vibrator type. Rollers shall be in good mechanical condition, capable of starting and stopping smoothly, and be free from backlash when reversing direction. Rollers shall be equipped and operated in such a way as to prevent the picking up of hot mixed material by the roller drums or tires. Crushing of the aggregate or displacement of the HMA during rolling will not be permitted. Any HMA Pavement that becomes loose, broken, contaminated, shows an excess or deficiency of PGAB, or is in any other way defective shall be removed and replaced at no additional cost with fresh material which shall be immediately compacted to conform to the adjacent area.

The Contractor shall repair or replace any roller found to be worn or defective, either before or during placement, to the satisfaction of the Department. Rollers that produce grooved, unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA. The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor's option unless otherwise specified in the contract, provided specified density is attained and with the following requirements:

- a. On variable-depth courses, the first lift of pavement over gravel, reclaimed pavement, on irregular or milled surfaces, or on bridges, at least one roller shall be 16 ton pneumatic-tired. Pneumatic-tired rollers shall be equipped with skirting to minimize the pickup of HMA materials from the paved surface. When required by the Resident, the roller shall be ballasted to 20 ton.
- b. Compaction with a vibratory or steel wheel roller shall precede pneumatic-tired rolling, unless otherwise authorized by the Department.
- c. Vibratory rollers shall not be operated in the vibratory mode on bridge decks.
- d. Any method, which results in cracking or checking of the mat, will be discontinued and corrective action taken.
- e. The use of an oscillating steel roller shall be required to compact all mixtures placed on bridge decks.

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

401.11 Surface Tolerances The Department will check the following surface tolerances:

- a. Longitudinally: The pavement surface profile shall be free of deviations in excess of +/- ¼ inches from the required pavement surface profile grade. To verify the surface tolerance a straight plane shall be established using 16 foot straight edge or a taught string line placed parallel to the direction of travel and checked continuously across the width of the lane.
- b. Transversely: The pavement surface profile shall be free of deviations in excess of 0 inches below and ¼ inches above the required cross-sectional profile grade. To verify the surface tolerance a straight plane shall be established using a 10 foot straight edge or taught string line placed perpendicular to the direction of travel and checked continuously along the length of the lane.

The Contractor shall correct defective areas 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 Department's use.

**401.12 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.

**401.13 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. Release agents that dissolve or strip asphalts, including diesel fuel, will not be allowed. On roadways with adjoining lanes carrying traffic, the Contractor shall place each course per the conditions in Table 5, unless otherwise noted by the Department in Section 403 - Hot Mix Asphalt Pavement.

TABLE 5: PLACEMENT CONDITIONS FOR ADJOINING LANES

| Depth<br>(at<br>centerline)             | Placement Conditions                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vertical Longitudinal Joint</b>      |                                                                                                                                                                                                                                                                                                                                           |
| ¾" and less<br>(incl. shim)             | The Contractor may place the HMA course over the full single travel lane width for each production day.                                                                                                                                                                                                                                   |
| 1" to 1 ¼"                              | The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before weekend or holiday suspension.                                                                                              |
| 1 ½" to 2"                              | The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before the end of the following calendar day.                                                                                      |
| Greater than<br>2"                      | The Contractor shall place each course over the full width of the traveled way section being paved that day.                                                                                                                                                                                                                              |
| <b>Notched-Wedge Longitudinal Joint</b> |                                                                                                                                                                                                                                                                                                                                           |
| 1 ½" to 2"                              | The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before weekend or holiday suspension. A maximum unmatched centerline joint length of 0.5 miles will be permitted over the weekend. |
| Greater than<br>2"                      | The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before the end of the following calendar day.                                                                                      |

The Contractor shall place the specified course over the full width of the mainline traveled way being paved, regardless of use, depth, or longitudinal joint type prior to Memorial Day, July 4<sup>th</sup>, Labor Day, paving suspensions exceeding three days, or other dates as specified by special provision.

The Contractor shall install additional warning signage that clearly defines the centerline elevation differential hazard. Unless otherwise addressed in the contract, the Contractor shall install additional centerline delineation such as a double application of raised pavement markers at 100 foot intervals, or temporary painted line. For any exposed vertical edge between the shoulder and traveled way, at a minimum, the use of temporary painted line, or RPMs placed along the edge of traveled way at 200 foot intervals is required. The Traffic Control Plan shall be amended to include this option and the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of

0.50 mile for the entire length of effected roadway section. If this option is utilized, all additional signing, labor, traffic control devices, or incidentals will not be paid for directly, will be considered incidental to the appropriate 652 items.

401.14 Hot Mix Asphalt Placement on Bridge Decks Hot mix asphalt pavement placed on bridges shall also conform to Section 508.04 and the following requirements.

- a. The minimum production and placement temperature for the Hot Mix Asphalt placed over membrane shall conform to the manufacturer's recommendations.
- b. The bottom course shall be placed with an approved rubber mounted paver of such type and operated in such a manner that the membrane waterproofing will not be damaged in any way.
- 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, unless otherwise directed by Special Provision.
- e. After the top course has been placed, the shoulder areas shall be sealed 3 ft wide with two applications of an emulsified bituminous sealer meeting the requirements of Section 612.03 - Sealing and Section 702.12 - Emulsified Bituminous Sealing Compound. The first application shall be pre-mixed with fine, sharp sand, similar to mortar sand, as needed to fill all voids in the mix in the area being sealed. The second application may be applied without sand. The sealer shall be carried to the curb at the gutter line in sufficient quantity to leave a bead or fillet of material at the face of the curb. The area to be sealed shall be clean, dry and the surface shall be at ambient temperature. The furnishing and applying of the required quantity of sealer for the bridge shoulder areas shall be incidental to placing the hot mix asphalt pavement.
- f. The area between the edge of the membrane and the vertical surface shall be completely sealed with hot-applied rubberized asphalt material, meeting the requirements of Type 4 crack seal; shall be applied to form a complete seal between the membrane and the vertical surface and shall extend up the vertical surface to within ½ inch of the top of the HMA wearing surface. This work shall be considered incidental to the contract pavement items unless 508 membrane items are included in the contract.

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

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

The Contractor shall immediately correct any displacement occurring as a result of the reversing of the direction of a roller or from other causes to the satisfaction of the 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.

For all items requiring pavement density testing, the Contractor shall cut 6-inch diameter cores at no additional cost to the Department by the end of the working day following paving. Cores shall be cut such that the nearest edge at least 9 inches from any joint. Pre-testing of the cores will not be allowed. If the Contractor and the Department mutually determine that a core is damaged, the Contractor shall cut new core(s) at the same offset and within 3 ft of the initial sample. The Contractor and the Department will mutually determine if underlying material is adhered to the core and if so will mark the core at the point where sawing is needed. The Department will place the cores in a secure container and the Contractor shall transport the cores to the designated MaineDOT lab. The cores will be saw cut by the Department to remove underlying layers. No recuts are allowed at a test location after the core has been tested.

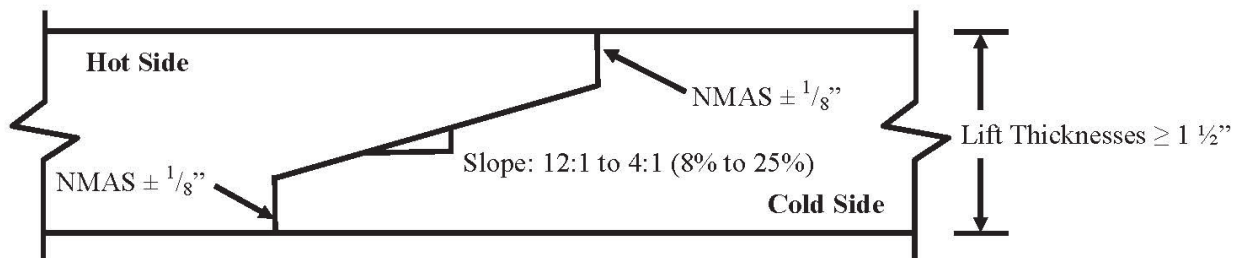
On all sections of overlay with wearing courses designed to be 1 in or less in thickness, there shall be no pay adjustment for density otherwise noted in Section 403 - Hot Mix Asphalt Pavement. For overlays designed to be 1 in or less in thickness, density shall be obtained by the same rolling train and methods as used on mainline travelway surface courses with a pay adjustment 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 Mix Asphalt 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.

401.16 Joints The Contractor shall construct wearing course transverse and longitudinal joints in such a manner that minimum tolerances shown in Section 401.11 - Surface Tolerances are met when measured with a straightedge. The paver screed shall maintain a uniform head of HMA during transverse and longitudinal 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 Contractor shall apply a coating of emulsified asphalt immediately before paving all joints to the vertical face and 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. Longitudinal joints shall be generally straight to the line of travel and constructed in a manner that best ensure joint integrity. Methods or activities that prove detrimental to the construction of straight, sound longitudinal joints will be discontinued.

The Contractor may utilize an approved notched wedge joint device on all HMA layers 1 ½ inches in depth or greater. A notched wedge joint shall be constructed as shown in Figure 1 using a device that is attached to the paver screed and is capable of independently adjusting the top and bottom vertical notches.



**FIGURE 1: Notched Wedge Joint**

Notes

1. An emulsified tack coat shall be applied to the vertical edges and the wedge surface so that the total rate is 0.05 G/SY plus the normal specified rate prior to placing the adjacent layer. The Contractor may elect to apply the emulsified tack coat in one or multiple passes.
2. Dimensions shown are compacted depths (after rolling is complete).

The Department reserves the right to have centerline cores cut by the Contractor's QC personnel for informational purposes to monitor the density along the joint. Informational cores at the centerline joint will be taken centered over the tapered part of the wedge joint.

Any notched wedge joint constructed areas that become cracked or broken shall be trimmed back to the limits affected prior to placing the adjoining lane. Any materials that become unbound or separated from the wedge or tapered joint section, or contaminated by materials determined by the Department as being detrimental to the construction of a sound construction joint, shall be removed by sweeping, compressed air and lance, or by hand tools as required. This work, if necessary, will not be paid for directly, but shall be considered incidental to the related contract items.

The Contractor shall apply a coating of emulsified asphalt on the vertical and tapered surface of the longitudinal centerline joint immediately before paving if the notched wedge joint device is used.

The total rate of application shall be 0.050 G/SY plus the normal specified tack coat rate. 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.

401.17 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. All delivery slips shall conform to the requirements of 401.078.

401.18 Prepave Meeting 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 density 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 personnel of the Department and the Contractor who have significant information relevant to the paving items shall attend, including the responsible onsite paving supervisor for the Contractor. The Resident will prepare minutes of the conference and distribute them to all attendees. Any requests to revise the minutes must be made to the Resident within 7 Days of Receipt. These minutes will constitute the final record of the Pre-paving conference. On the first day of paving and whenever there is a change in the onsite paving foreman or paving inspector, the Department and the Contractor shall hold an informal onsite meeting to review the minutes of the Pre-paving conference, Project Specific QCP, Plans, Typical, Special Provisions and communication process. This meeting shall be held prior to placing any mix and, at minimum, shall occur yearly for multi-year contracts. The onsite paving supervisor, QCT, Superintendent, Resident and/or paving inspector shall attend.

401.19 Contractor Quality Control – Method A, B, C & D

The Contractor shall operate in accordance with the approved Quality Control Plan (QCP) to assure a product meeting the contract requirements. The Contractor shall not begin paving operations until the Department approves the QCP in writing.

401.191 Quality Control The QCP shall meet the requirements of Section 106.6 – Acceptance and this Section. The QCP shall address any items that affect the quality of the Hot Mix Asphalt Pavement, and shall include the following personnel meeting these minimum requirements:

- a. QCP Administrator – 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 their designee in the QCP Administrator's absence) shall be available to communicate with the Department at all times.
  - For items accepted under Methods A and B, the QCP Administrator shall be certified as a Quality Assurance Technologist (QAT) by NETTCP.
  - For items accepted under Methods C and D, the QCP Administrator shall be certified by NETTCP as a Quality Assurance Technologist (QAT), Plant Technician, or Paving Inspector.
- b. Process Control Technician(s) (PCT) shall utilize test results and other quality control practices to assure the quality of aggregates and other mix components and control proportioning to meet the JMF(s). The PCT shall inspect all equipment used in mixing to assure it is operating properly and that mixing conforms to the mix design(s) and other Contract requirements, and that delivery slips and plant recordation accurately reflects the mix being produced with all the required information. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one PCT is required. The Plan shall include the criteria to be utilized by the PCT to correct or reject unsatisfactory materials. The PCT shall be certified as a Plant Technician by the NETTCP.
- c. Quality Control Technician(s) (QCT) shall perform and utilize quality control tests at the job site to assure that delivered materials meet the requirements of the JMF(s). The QCT

shall inspect all equipment utilized in transporting, laydown, and compacting to assure it is operating 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 QCP shall address any items that affect the quality of the Hot Mix Asphalt Pavement including, but not limited to, the following:

- a. General Requirements:
  - Job Mix Formulas (JMFs)
  - Name of QCP Administrator, and certification number
  - Description of corrective action process
  - Disposition of defective material
  - A procedure to take immediate possession of acceptance samples once released by MaineDOT and deliver said samples to the designated acceptance laboratory.
- b. Process Control Requirements: Each Hot Mix Asphalt plant shall have a Plant Specific Process Control Plan. At minimum the plan shall include:
  - Name of Plant Specific Process Control Technician(s) and certification number(s)
  - Hot mix asphalt plant details
  - Stockpile Management
  - Mixing & transportation
  - Silo management and details
  - A detailed description of RAP processing, stockpiling and introduction into the plant
  - PG Binder management:
    - Tanks and storage (including polymer modified binders if applicable)
    - Binder temperature
    - Sample points
    - Method to ensure mixture contains the specified binder grade
    - Additive introduction details if introduced at the plant
  - Testing and inspection plan for control of aggregates and RAP
  - Mix Testing and inspection plan
- c. Quality Control Requirements – Method A & B:
  - Name of Quality Control Technicians(s) and certification number(s)
  - Laydown operations
  - Longitudinal joint construction including the tacking of all joints.
  - Procedures for avoiding paving in inclement weather
  - Compaction of shoulders
  - Methods to ensure that segregation is minimized
  - Procedures to determine the maximum rolling and paving speeds based on best engineering practices and past experience in achieving acceptable pavement smoothness.

- Sequence for paving around drainage structures, under guard rail, around curb, at bridges, intersections, drives and minor approaches to ensure proper compaction, finish, and drainage.
- Type of release agent to be used on haul units, tools and rollers.

d. Quality Control Requirements – Method C and D:

- Name of QCP Administrator and certification number(s) as specified in Section 401.19.
- Name of Process Control Technicians(s) and certification number(s).
- Name of Quality Control Technicians(s) and certification number(s).
- Anticipated Compaction Temperature Zones for each roller pass during placement.
- Mix TMD to be used for density gauge setting for method spec density work
- Procedures for avoiding paving in inclement weather.
- Type of release agent to be used on haul units, tools and rollers.
- A note stating that the use of petroleum-based fuel oils, such as diesel or kerosene, or asphalt stripping solvents will not be permitted.

The Contractor shall also supply a Laydown Operation Plan that addresses sequence of work, layout of work, longitudinal joint construction, compaction of shoulders, methods to minimize segregation, and procedures to achieve acceptable pavement smoothness.

For each production day, a summary of each day's results, including a daily paving report, summarizing the mixture type, mixture temperature, equipment used, environmental conditions, and the number of roller passes, shall be recorded and signed by the QCT and presented to the Department's representative by 1 PM the following working day.

Unless otherwise noted in Section 403 – Hot Mix Asphalt Pavement, the Contractor shall submit a modified QC Plan every year detailing, how the mix is to be placed, what equipment is to be used, and what HMA plant is to be used for Items covered under the Plan. All mix designs (JMF) shall be approved and verified by MaineDOT prior to use.

A QCP, certified QC personnel, and a Prepave Meeting shall not be required for Item 403.209 - Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals) accepted under visual or Method D. An approved JMF shall be provided to the Resident prior to placement.

The Contractor shall certify the mix and the test results for each item by a Certificate of Compliance.

The Contractor shall have a testing lab at the plant site, equipped with all testing equipment necessary to complete the tests in Table 6. The Contractor shall generate QC sampling random numbers for each approved mix design every year. A copy of the random numbers shall be emailed to the QC.mainedot@maine.gov email address and remain on-file (in print) and be available for inspection at the QC laboratory. The Contractor shall sample, test, and evaluate Hot Mix Asphalt Pavement in accordance with the minimum frequencies per each approved mix design.

TABLE 6: 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 (In-Place Density - Surface) | 1 per 125 ton                 | AASHTO T 355 or AASHTO T 343 |
| %TMD (In-Place Density - Base)    | 1 per 250 ton                 | AASHTO T 355 or AASHTO T 343 |
| Fines / Effective Binder          | 1 per 500 ton                 | AASHTO T 312*                |
| Gradation                         | 1 per 500 ton                 | AASHTO T 30                  |
| PGAB Content                      | 1 per 500 ton                 | AASHTO T 164 or AASHTO T 308 |
| Voids at $N_{design}$             | 1 per 500 ton                 | AASHTO T 312*                |
| VMA at $N_{design}$               | 1 per 500 ton                 | AASHTO T 312*                |
| Rice Specific Gravity             | 1 per 500 ton                 | AASHTO T 209                 |
| Percent Fractured Particles       | 1 per 5,000 ton               | AASHTO T 335                 |
| Flat and Elongated Particles      | 1 Per 5,000 ton               | ASTM D4791                   |
| Fine Aggregate Angularity         | 1 Per 5,000 ton               | AASHTO T 304                 |

\*Method A and B only

The Contractor shall monitor plant production on each approved mix design using running average of three control charts as specified in Section 106 - Quality. Control limits shall be as noted in Table 7 below. The UCL and LCL, shall not exceed the allowable gradation control points for the particular type of mixture as outlined in Table 1 of Section 703.09.

TABLE 7: CONTROL LIMITS

| Property                                  | UCL and LCL          |
|-------------------------------------------|----------------------|
| Percent Passing 4.75 mm and larger sieves | Target +/- 4.0       |
| Percent Passing 2.36 mm sieve             | Target +/- 2.5       |
| Percent Passing 0.075 mm sieve            | Target +/- 1.0       |
| PGAB Content                              | Target +/- 0.25      |
| VMA at $N_{design}$                       | LCL = LSL + 0.2      |
| Voids at $N_{design}$                     | JMF Target +/- 1.2   |
| Theoretical Maximum Specific Gravity      | JMF Target +/- 0.020 |

The Contractor shall submit all QC test and inspection reports and updated control charts to the Resident and QC.mainedot@maine.gov by email. The reports and updated control charts shall be signed by the appropriate technician and be submitted to the Department by 1:00 P.M. on the next working day, except when otherwise noted in the QCP and approved by the Department.

The Contractor shall also retain splits of the previous 5 QC tests, with QC results enclosed for random selection and testing by the Department. Test results of splits that do not meet the Dispute Resolution

Variance Limits in Table 18 shall trigger an investigation by the MaineDOT Independent Assurance Unit and may result in that lab losing NETTCP certification and the ability to request a dispute [Section 401.50 - Process for Dispute Resolution].

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 summarizing the mixture type, mixture temperature, equipment used, environmental conditions, and the number of

roller passes, shall be recorded and signed by the QCT and provided to the QC.mainedot@maine.gov email address and Resident in writing by 1:00 p.m. the next working day. 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. The Contractor may only cut additional cores for verification of the densometer, at a rate not to exceed 3 per day or 2 per 1000 ton placed.

If the Contractor's control chart shows the process for a given mix design 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 7: Control Limits, the Contractor shall notify the Resident of all affected projects in writing of the corrective action by 1:00 PM the next working day. The written description shall detail what action is being taken by the Contractor to bring the property in question back within control limits. Subsequent quality control results are expected to demonstrate an improvement and regression towards the aim. The Department reserves the right to take action, to include cessation of production, in the case of repeated results outside the Table 7 control chart control limits.

On a daily basis, or whenever equipment type or sequence is modified, the Contractor shall perform density testing across the mat being placed, prior to being compacted by equipment at 12 in intervals. If the density values vary by more than 2.0% from the mean, the Contractor shall make adjustments to the screed 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.

The Contractor shall cease paving operations whenever one of the following occurs:

- a. The quality level for density using all quality control tests for the current Lot is less than 60 PWL.
- b. The Coarse Aggregate Angularity or Fine Aggregate Angularity value falls below the requirements of Section 703.07, Table 3: Aggregate Consensus Properties Criteria for the design traffic level.
- c. The Flat and Elongated Particles value exceeds 10% by ASTM D4791.
- d. There is any visible damage to the aggregate due to over-densification other than on variable depth shim courses.
- e. The Contractor fails to follow the approved QCP.

The Contractor shall notify the Resident in writing as to the reason for shutdown, as well as the corrective action, by the end of the workday. Failure to do so will be treated as a second incident under 106.4.6 QCP Non-compliance. The Department will only allow the continuation of paving operations when it is satisfied the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production. 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.

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.

401.192 Quality Control for Method D, (sidewalks, drives, islands & incidentals) and visual acceptance items A QCP, certified QC personnel, or Prepave Meeting shall not be required for Item 403.209 - Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals) accepted under visual or Method D. An approved JMF shall be provided to the Resident prior to placement.

401.20 Acceptance Method A & C These methods utilize 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 Acceptance Properties as outlined in Table 8:

TABLE 8: ACCEPTANCE PROPERTIES – METHOD A & C

| Properties                | Point of Sampling      | Test Method  |
|---------------------------|------------------------|--------------|
| Gradation                 | Paver Hopper           | AASHTO T 30  |
| PGAB Content              | Paver Hopper           | AASHTO T 308 |
| % TMD (In-Place Density)  | Mat behind all Rollers | AASHTO T 269 |
| Voids at $N_{design}$     | Paver Hopper           | AASHTO T 312 |
| VMA at $N_{design}$       | Paver Hopper           | AASHTO T 312 |
| Fines to Effective Binder | Paver Hopper           | AASHTO T 312 |
| VFB                       | Paver Hopper           | AASHTO T 312 |

The Department will obtain samples of Hot Mix Asphalt Pavement in conformance with AASHTO R 97, Sampling Asphalt Mixtures, and the MaineDOT Policies and Procedures for HMA Sampling and Testing. The Contractor shall transport the samples in containers provided by the Department to the designated MaineDOT Laboratory within 48 hours except when otherwise noted in the project specific QCP or as directed by the Resident. Failure to deliver an acceptance sample to the designated acceptance laboratory will be considered the second incident under 106.4.6–QCP Non-Compliance.

Target values shall be as specified in the JMF. 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 being evaluated under quality level analysis, where there is a minimum of four sublots, results shall be examined for statistical outliers, as stated in Section 106.7.2 - Statistical Outliers.

Lot sizes and subplot sizes shall be determined as outlined in Table 9.

TABLE 9: LOT AND SUBLOT SIZES – METHOD A & C

| Lot Size*                           | Entire production per item per contract per year up to 6000 ton  |
|-------------------------------------|------------------------------------------------------------------|
| Maximum Sublot Size – Mix           | 750 ton                                                          |
| Maximum Sublot Size – Density       | Surface Layers – 250 ton<br>Base / Intermediate Layers – 500 ton |
| Minimum Number of Samples – Mix     | Four                                                             |
| Minimum Number of Samples – Density | Five                                                             |

\*General – Lot and Sublot size may be adjusted to accommodate the work scope and schedule, or as otherwise agreed upon at the Prepave Meeting

If there is less than one-half of a subplot remaining at the end of production for the year, then it shall be combined with the previous subplot. If there is more than one-half subplot remaining at the end of production for the year, 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. Unanticipated over-runs of up to 1500 ton shall be rolled into the last lot. Cases where the lot is terminated prior to reaching completion shall be handled in accordance with Section 106.7.3 Early Termination of Lots. In cases where density incentive/disincentive provision apply, additional cores shall be taken to attain a minimum of three for the Lot.

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, a change in process 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 for Method A, 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 150 ft.

TABLE 10: ACCEPTANCE LIMITS – METHOD A &amp; C

| Property                                  | USL and LSL                                    |                 |
|-------------------------------------------|------------------------------------------------|-----------------|
|                                           | Method A                                       | Method C        |
| Percent Passing 4.75 mm and larger sieves | Target +/- 7%                                  | Target +/- 7%   |
| Percent Passing 2.36 mm to 1.18 mm sieves | Target +/- 4%                                  | Target +/- 5%   |
| Percent Passing 0.60 mm sieve             | Target +/- 3%                                  | Target +/- 4%   |
| Percent Passing 0.30 mm to 0.075 mm sieve | Target +/- 2%                                  | Target +/- 2%   |
| PGAB Content                              | Target +/- 0.4%                                | Target +/- 0.4% |
| Voids at $N_{design}$                     | 4.0% +/- 1.5%                                  | N/A             |
| Fines to Effective Binder                 | 0.9 +/- 0.3                                    | N/A             |
| VMA at $N_{design}$                       | LSL from Table 1                               | N/A             |
| VFB                                       | Table 1 plus a 4% production tolerance for USL | N/A             |
| % TMD (In-place Density)                  | 94.5% +/- 2.5%                                 | 94.5% +/- 2.5%  |

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

TABLE 11: CEASE PRODUCTION – METHOD A &amp; C

| Property                        | Percent Within Limits (PWL) |          |
|---------------------------------|-----------------------------|----------|
|                                 | Method A                    | Method C |
| Percent Passing NMA sieve*      | <60 PWL                     | <60 PWL  |
| Percent Passing 2.36 mm sieve*  |                             |          |
| Percent Passing 0.30 mm sieve*  |                             |          |
| Percent Passing 0.075 mm sieve* |                             |          |
| PGAB Content                    |                             | N/A      |
| Voids at $N_{design}$           |                             |          |
| Fines to Effective Binder*      |                             |          |
| VMA at $N_{design}$             |                             |          |
| VFB                             |                             |          |
| % TMD (In-place Density)        |                             | <60 PWL  |

\*Paving operations shall not be required to cease if the mean test value is equal to the LSL or USL and  $s = 0$ .

In cases where the Contractor is to cease paving operations based upon an Acceptance result or payfactor, the Contractor will submit a corrective action plan to the Department. The Department will only allow the continuation of paving operations when it is satisfied the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production.

**401.201 Pay Adjustment - Method A & C** The Department will use the following criteria for pay adjustment at the completion of the Lot using the pay adjustment factors under Section 106.7 - Quality Level Analysis.

**Density** Upon conclusion of each lot, density results shall be examined for statistical outliers as stated in Section 106.7.2. If the pay factor for Density falls below 0.80, all of the cores will be randomly re-cut 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, 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.

**Mix Properties** The Department will determine a pay factor (PF) using the applicable Acceptance Limits. If all three pay factors for PGAB Content, VMA at  $N_{design}$ , and Voids at  $N_{design}$  fall below 0.80 for Method A, then the composite pay factor for PGAB Content, VMA at  $N_{design}$ , and Voids at  $N_{design}$  shall be 0.50.

The following variables will be used for pay adjustment:

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

The Department will determine a pay adjustment using Table 12: Pay Adjustment Calculations as follows:

TABLE 12: PAY ADJUSTMENT CALCULATIONS – METHOD A & C

| Acceptance Method | Mix Properties / Gradation                                                                                                                                                                                                                                                                        | Density                                            |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Method A          | $PA = (\text{Voids @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{VMA @ } N_d - 1.0)(Q)(P) \times 0.20 + (\text{PGAB Content PF} - 1.0)(Q)(P) \times 0.10$                                                                                                                                  | $PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$ |
| Method C          | $PA = (\% \text{ Passing Nom. Max PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 2.36 mm PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 0.30 mm PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 0.075 mm PF} - 1.0)(Q)(P) \times 0.10 + (\text{PGAB Content PF} - 1.0)(Q)(P) \times 0.25$ | $PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$ |

In addition, for 9.5 mm NMAS mixtures the following pay adjustment shall also apply:

The average percent passing for the 0.075 mm sieve shall be evaluated for each Lot. If the average is greater than 6.5%, a pay adjustment according to Table 13 below shall apply in addition to the other pay adjustments for the given method of testing.

TABLE 13: 0.075 MM SIEVE PAY ADJUSTMENT

| Average Percent Passing 0.075 mm Sieve | Pay Adjustment |
|----------------------------------------|----------------|
| 6.6% - 7.0%                            | -5%            |
| > 7.0%                                 | -10%           |

The Department shall notify the Contractor whenever the average of at least three samples in a given Lot is greater than 6.5%.

**401.21 Acceptance Method B & D** Unless otherwise stated in the 403 special provision, the Lot shall be the entire mix quantity per item per contract per year. The Department will sample once per subplot per pay item on a statistically random basis, test, and evaluate in accordance with the Acceptance Properties in Table 14. The Department will obtain samples of Hot Mix Asphalt Pavement in conformance with AASHTO R 97, Sampling Asphalt Mixtures, and the MaineDOT Policies and Procedures for HMA Sampling and Testing. The Contractor shall transport the samples in containers provided by the Department to the designated MaineDOT Laboratory within 48 hours except when otherwise noted in the project specific QCP or as directed by the Resident. Failure to deliver an acceptance sample to the designated acceptance laboratory will be considered the second incident under 106.4.6–QCP Non-Compliance. Target values shall be as specified in the JMF. 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.

TABLE 14: ACCEPTANCE PROPERTIES – METHOD B &amp; D

| Properties                | Point of Sampling      |                        | Test Method  |
|---------------------------|------------------------|------------------------|--------------|
|                           | Method B               | Method D               |              |
| Gradation                 | Paver Hopper           | Paver Hopper or Truck  | AASHTO T 30  |
| PGAB Content              | Paver Hopper           | Paver Hopper or Truck  | AASHTO T 308 |
| % TMD (In-Place Density)  | Mat behind all Rollers | Mat behind all Rollers | AASHTO T 269 |
| Voids at $N_{design}$     | Paver Hopper           | N/A                    | AASHTO T 312 |
| VMA at $N_{design}$       | Paver Hopper           | N/A                    | AASHTO T 312 |
| Fines to Effective Binder | Paver Hopper           | N/A                    | AASHTO T 312 |
| VFB                       | Paver Hopper           | N/A                    | AASHTO T 312 |

TABLE 15: LOT AND SUBLOT SIZES – METHOD B &amp; D

| Lot Size*                 | Entire mix quantity per item per contract per year |                          |
|---------------------------|----------------------------------------------------|--------------------------|
| Maximum Sublot Size – Mix | (Lot size $\leq$ 1000 tons)                        | (Lot size $>$ 1000 tons) |
|                           | 250 ton                                            | 750 ton                  |
| Sublot Size – Density     | 125 ton<br>(Max 5 Sublots)                         | 250 ton                  |

\*General – Lot and Sublot size may be adjusted to accommodate the work scope and schedule, or as otherwise agreed upon at the Prepave Meeting

If there is less than one-half of a sublot remaining at the end of production for the year, then it shall be combined with the previous sublot. If there is more than one-half sublot remaining at the end of production for the year, then it shall constitute the last sublot.

TABLE 16: ACCEPTANCE LIMITS – METHOD B &amp; D

| Property                           | USL and LSL                                    |                 |
|------------------------------------|------------------------------------------------|-----------------|
|                                    | Method B                                       | Method D        |
| Percent Passing 4.75 mm and larger | Target +/- 7%                                  | Target +/- 7%   |
| Percent Passing 2.36 mm sieve      | Target +/- 5%                                  | Target +/- 7%   |
| Percent Passing 1.18 mm sieve      | Target +/- 5%                                  | Target +/- 5%   |
| Percent Passing 0.60 mm sieve      | Target +/- 4%                                  | Target +/- 4%   |
| Percent Passing 0.30 mm sieve      | Target +/- 3%                                  | Target +/- 3%   |
| Percent Passing 0.075 mm sieve     | Target +/- 3%                                  | Target +/- 3%   |
| PGAB Content                       | Target +/- 0.5%                                | Target +/- 0.5% |
| Voids at $N_{design}$              | 4.0% +/- 2.0%                                  | N/A             |
| Fines to Effective Binder          | 0.9 +/- 0.3                                    | N/A             |
| VMA at $N_{design}$                | LSL from Table 1                               | N/A             |
| VFB                                | Table 1 plus a 4% production tolerance for USL | N/A             |
| % TMD (In-place Density)           | 94.5% +/- 2.5%                                 | LSL of 92.0%    |

The Contractor shall cease paving operations whenever two consecutive Method B or D tests fall outside specification limits on the same property. The Contractor will submit a corrective action plan to the Department. The Department will only allow the continuation of paving operations when it is satisfied the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production.

**401.211 Pay Adjustment - Method B & D** For items accepted under Method B or D, if the mix is within the tolerances listed in Table 16, the Department will pay the contract unit price, otherwise pay adjustments as shown in Table 17 shall be applied to the quantity of mix represented by the test. The Contractor shall cut one 6 in core per subplot unless otherwise noted in Section 403 - Hot Mix Asphalt Pavement. If the density result is not within the specified limits the disincentive shall apply. If the subplot density is less than 88.5 percent or greater than 99.0 percent of the subplot TMD, two additional cores shall be cut at random locations determined by the Department. If either of the additional cores has a density less than 88.5 percent or greater than 99.0 percent of the subplot TMD, the subplot shall be removed and replaced at no cost to the Department; otherwise, the average of the three cores will be used to determine the subplot pay adjustment.

TABLE 17: PAY ADJUSTMENTS – METHOD B &amp; D

| Property                       | Method B                       |        | Method D         |        |
|--------------------------------|--------------------------------|--------|------------------|--------|
| Percent Passing 2.36 mm sieve  | N/A                            |        | -2.0%            |        |
| Percent Passing 0.30 mm sieve  | N/A                            |        | -1.0%            |        |
| Percent Passing 0.075 mm sieve | -2.0%                          |        | -2.0%            |        |
| PGAB Content                   | -5.0%                          |        | -5.0%            |        |
| Voids at $N_{design}$          | -3.0%                          |        | N/A              |        |
| % TMD (In-place Density)       | 91.5% - 91.9% or 97.1% - 97.5% | -5.0%  | 91.5% - 91.9%    | -5.0%  |
|                                | 90.5% - 91.4% or 97.6% - 98.5% | -10.0% | 90.5% - 91.4%    | -10.0% |
|                                | 89.5% - 90.4% or 98.6% - 99.0% | -20.0% | 89.5% - 90.4%    | -20.0% |
|                                | 88.5% - 89.4%                  | -30.0% | 88.5% - 89.4%    | -30.0% |
|                                | <88.5% or >99.0%               | Reject | <88.5% or >99.0% | Reject |

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

**401.40 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 401.12, 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 in Section 401.20 Acceptance Method A & B or 401.21 Acceptance Method C & D.

**401.50 Process for Dispute Resolution** 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 in accordance with applicable AASHTO procedure and accepted supplemental practice as described in the Department's HMA Sampling and Testing Policies and Procedures manual. The Contractor shall report their results to the Resident, with a copy to Contractor.mainedot@maine.gov 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 at least two weeks after it has been reported, or until the sample is tested. The properties eligible for dispute and the respective variances are shown in Table 18.

The Contractor may dispute the Department's Acceptance results and request that the dispute resolution split sample be tested by notifying the Department's Resident and QA Engineer in writing within two working days after the results of the Acceptance test are reported. 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 MaineDOT) of their split of the Acceptance sample indicating that the variances in Table 18 for the specific test result(s) or property(ies) were exceeded.

TABLE 18: DISPUTE RESOLUTION VARIANCE LIMITS

| Property                                  | Method A & B                                   | Method C & D*                | Variance Limits |
|-------------------------------------------|------------------------------------------------|------------------------------|-----------------|
| PGAB Content                              | Yes                                            | Yes                          | +/- 0.4%        |
| $G_{mb}$                                  | Yes                                            | No                           | +/- 0.030       |
| $G_{mm}$                                  | Yes                                            | Only if referenced to a Core | +/- 0.020       |
| Voids at $N_{design}$                     | Only if $G_{mb}$ or $G_{mm}$ is not disputable | No                           | +/- 0.8%        |
| VMA at $N_{design}$                       | Only if $G_{mb}$ or $G_{mm}$ is not disputable | No                           | +/- 0.8%        |
| Percent Passing 4.75 mm and larger sieves | No                                             | Yes^                         | +/- 4.0%        |
| Percent Passing 2.36 mm to 0.60 mm sieves | No                                             | Yes^                         | +/- 3.0%        |
| Percent Passing 0.30 mm to 0.15 mm sieves | No                                             | Yes^                         | +/- 2.0 %       |
| 0.075 mm sieve                            | Only for 9.5 mm NMAS mixes                     | Yes                          | +/- 0.8%        |

\*Disputes will not be allowed on Item 403.209

^Disputes will only be allowed on Sieve Sizes used for pay adjustment calculations

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.

## 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 - Hot Mix Asphalt Pavement.

**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 3000 lane-feet. A subplot will consist of 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 100 ft of bridge joints)
- Acceleration and deceleration lanes
- Shoulders and ramps
- Side streets and roads
- Within 100 ft of transverse joints at the beginning and end of the project
- Within 100 ft of railroad crossings
- Urban areas with speed limits of 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.

TABLE 1: ACCEPTANCE LIMITS

| Level | USL        |
|-------|------------|
| I     | 55 in/mile |
| II    | 65 in/mile |
| III   | 75 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 401.11 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 MIX ASPHALT PAVEMENT

403.01 Description This work shall consist of constructing one or more courses of Hot Mix Asphalt 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 HMA pavement shall be composed of a mixture of aggregate, filler if required, and asphalt 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.

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

403.05 Basis of Payment The accepted quantities of hot mix asphalt pavement will be paid for at the contract unit price per ton for the mixtures, including hot mix asphalt 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 Mix Asphalt 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                                                                 | Ton             |
| 403.206 Hot Mix Asphalt, 25 mm Nominal Maximum Size                                                                | Ton             |
| 403.207 Hot Mix Asphalt, 19.0 mm Nominal Maximum Size                                                              | Ton             |
| 403.2071 Hot Mix Asphalt, 19.0 mm Nominal Maximum Size (Polymer Modified)                                          | Ton             |
| 403.2072 Asphalt Rich Hot Mix Asphalt, 19.0 mm Nominal Maximum Size<br>(Asphalt Rich Base and Intermediate course) | Ton             |
| 403.208 Hot Mix Asphalt, 12.5 mm Nominal Maximum Size                                                              | Ton             |
| 403.2081 Hot Mix Asphalt - 12.5 mm Nominal Maximum Size (Polymer Modified)                                         | Ton             |
| 403.209 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size<br>(Sidewalks, Drives, Islands & Incidentals)                 | Ton             |
| 403.210 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size                                                               | Ton             |
| 403.2101 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Polymer Modified)                                           | Ton             |
| 403.2104 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Thin Lift Surface Treatment)                                | Ton             |
| 403.211 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Shimming)                                                    | Ton             |
| 403.2111 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Shimming, Polymer Modified))                                | Ton             |
| 403.212 Hot Mix Asphalt, 4.75 mm Nominal Maximum Size                                                              | Ton             |
| 403.213 Hot Mix Asphalt, 12.5 mm Nominal Maximum Size<br>(Base and Intermediate Base course)                       | Ton             |
| 403.2131 Hot Mix Asphalt, 12.5 mm Nominal Maximum Size<br>(Base and Intermediate Base course, Polymer Modified)    | Ton             |
| 403.2132 Asphalt Rich Hot Mix Asphalt, 12.5 mm Nominal Maximum Size<br>(Base and Intermediate Base course)         | Ton             |
| 403.214 Hot Mix Asphalt, 4.75 Nominal Maximum Size (5/8" Surface Treatment)                                        | Ton             |

**SECTION 400**  
**HOT MIX ASPHALT PAVEMENT**  
(Weather and Seasonal Limitations)

The following section of Special Provision Section 400 – Weather and Seasonal Limitations Table3: SEASONAL AND TEMPERATURE LIMITATIONS has been replaced by the following Table 3: SEASONAL AND TEMPERATURE LIMITATIONS. All other requirements not amended or replaced by Table3 by this special provision shall be considered unchanged.

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.

**TABLE 3: SEASONAL AND TEMPERATURE LIMITATIONS**

| Description                                                                                                          | Zone 1 Allowable Placement Dates             | Zone 2 Allowable Placement Dates          | Minimum Ambient Air Temperature |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------|---------------------------------|
| HMA Surface Course greater than or equal to 1”<br>(Travelway)                                                        | May 1 to Saturday following October 1        | April 15 to Saturday following October 15 | 50°F                            |
| HMA Surface Course less than 1”<br>(Travelway)                                                                       | May 15 to Saturday following September 15    | May 15 to Saturday following October 1    |                                 |
| HMA Surface Course less than 1” considered to be “ <b>Night Work</b> ”<br>(Travelway)                                | June 1 to the Saturday following September 1 |                                           |                                 |
| HMA Surface Course less than 1”<br>(Shoulders)                                                                       | May 15 to the Saturday following October 15  |                                           |                                 |
| HMA for Surface Course on <b>Bridge Decks</b>                                                                        | May 1 to Saturday following October 1        | April 15 to Saturday following October 15 |                                 |
| HMA for Base or Shim Course on <b>Bridge Decks</b>                                                                   | April 15 to November 15                      |                                           |                                 |
| HMA for use other than Travelway Surface Course<br>(Shoulders greater than or equal to 1”, Intermediate, Base, Shim) | April 15 to November 15                      |                                           | 40°F                            |
| HMA for curb, driveways, sidewalks, islands, or other incidentals                                                    | N/A                                          |                                           |                                 |

| With Use of Approved Warm Mix Technology as Compaction Aid<br>(Surface Course Ambient Air Temperature Allowances)    |                                                                |                                                                |                                            |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------|
| HMA Surface Course greater than or equal to 1”<br>(Travelway)                                                        | May 1 to Saturday following October 1                          | April 15 to Saturday following October 15                      | Begin at 50°F and pave <b>down to 45°F</b> |
| HMA Surface Course less than 1”<br>(Travelway)                                                                       | May 15 to Saturday following October 1                         | May 15 to Saturday following October 15                        |                                            |
| HMA Surface Course less than 1” considered to be “ <b>Night Work</b> ”<br>(Travelway)                                | June 1 to the Saturday following September 15                  |                                                                |                                            |
| HMA Surface Course less than 1”<br>(Shoulders)                                                                       | May 15 to the Saturday following October 15                    |                                                                |                                            |
| With Use of Approved Warm Mix Technology as Compaction Aid<br>(Seasonal Limitation Extensions)                       |                                                                |                                                                |                                            |
| HMA Surface Course greater than or equal to 1”<br>(Travelway)                                                        | Saturday following October 1 to Saturday following October 15  | Saturday following October 15 to Saturday following October 29 | 50°F                                       |
| HMA Surface Course less than 1”<br>(Shoulders)                                                                       | Saturday following October 15 to Saturday following October 29 |                                                                | 50°F                                       |
| HMA for use other than Travelway Surface Course<br>(Shoulders greater than or equal to 1”, Intermediate, Base, Shim) | April 15 to Saturday following November 15                     |                                                                | 35°F                                       |

1. Shoulders paved with the travelway pass shall meet travelway ambient air temperatures
2. Refer to the 461 SP for UTBWC for seasonal and temperature requirements.

The ambient air temperature shall be determined by an approved thermometer placed in the shade at the paving location. Unless otherwise specified, the Contractor shall not place Hot Mix Asphalt Pavement on a wet or frozen surface regardless of the ambient air temperature. The Hot Mix Asphalt Pavement produced with an approved WMA technology shall meet the requirements of section 401.04 - Temperature Requirements, unless otherwise approved by the Department. For the purposes of this Section, the traveled way includes truck lanes, ramps, approach roads and auxiliary lanes.

**SPECIAL PROVISION**  
**SECTION 401 - HOT MIX ASPHALT PAVEMENT**  
(HMA with Fine Micro-Deval Requirement)

The following subsections of the most current version of Specification 401 – Hot Mix Asphalt Pavements have been revised and amended by the following:

401.01 Description The Contractor shall compose Hot Mix Asphalt (HMA) Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. If denoted in Special Provision 403 - Hot Mix Asphalt Pavement, the mixtures shall meet the additional aggregate requirements of this special provision.

401.02 Materials Materials shall meet the requirements specified in Section 700 – Materials, unless otherwise revised in this special provision:

|                             |        |
|-----------------------------|--------|
| Aggregates for HMA Pavement | 703.07 |
| HMA Mixture Composition     | 703.09 |

The HMA blend, minus any RAP used, shall have a Fine Micro-Deval value of 15.0 or less as determined by weighted average of individual fine aggregate source values determined through ASTM D7428.

**SPECIAL PROVISION****SECTION 403****HOT MIX ASPHALT**

| Desc. Of Course                                                                      | Grad Design. | Item Number | Total Thick | No. Of Layers | Comp. Notes      |
|--------------------------------------------------------------------------------------|--------------|-------------|-------------|---------------|------------------|
| <b><u>Variable Depth Mill (2") &amp; 1 ½" HMA Overlay w/ Variable Depth Shim</u></b> |              |             |             |               |                  |
| <b><u>Travel Lane &amp; Shoulders (As Indicated)</u></b>                             |              |             |             |               |                  |
| Wearing                                                                              | 9.5 mm       | 403.2101    | 1 ½"        | 1             | 2,4,10,24,42     |
| Shim                                                                                 | 9.5 mm       | 403.211     | variable    | 1/more        | 4,10,20,30,42    |
| <b><u>Shoulder Reconstruction Area</u></b>                                           |              |             |             |               |                  |
| <b><u>Base Paving (As Indicated)</u></b>                                             |              |             |             |               |                  |
| Base                                                                                 | 12.5 mm      | 403.213     | 3"          | 1/more        | 4,10,30,31,33,55 |
| <b><u>4" HMA Reconstruction - Side Roads &amp; Madawaska Avenue</u></b>              |              |             |             |               |                  |
| <b><u>Travel Lane &amp; Shoulders (As Indicated)</u></b>                             |              |             |             |               |                  |
| Wearing                                                                              | 9.5 mm       | 403.2101    | 1 ½"        | 1             | 2,4,10,24,42,43  |
| Base                                                                                 | 12.5 mm      | 403.213     | 2 ½"        | 1             | 4,10,43          |
| <b><u>Utilities Cross Trenches &amp; Structure Adjustment Areas</u></b>              |              |             |             |               |                  |
| <b><u>Base Paving (As Indicated or Directed)</u></b>                                 |              |             |             |               |                  |
| Base                                                                                 | 12.5 mm      | 403.213     | 4" or Match | 2/more        | 4,10,30,32,34,57 |
| <b><u>Spot Shim (As Directed)</u></b>                                                |              |             |             |               |                  |
| Shim                                                                                 | 9.5 mm       | 403.211     | variable    | 1/more        | 4,10,20,30       |
| <b><u>Drives, Sidewalk, Islands, ADA Ramps, Misc. (As Directed)</u></b>              |              |             |             |               |                  |
| Wearing                                                                              | 9.5 mm       | 403.209     | 2" - 3"     | 1/more        | 3,20,30,32       |

**COMPLEMENTARY NOTES**

2. The required PGAB shall be a storage-stable, homogeneous, polymer modified asphalt binder that meets **PG 64E-28** grading requirements in AASHTO M 332. All polymer modified asphalt grades utilized on the Project shall be treated with an approved liquid anti-strip. PG binders shall be treated either at the asphalt source terminal with the required dose rate on the delivery documentation, or at the hot mix asphalt plant utilizing a system integrated with the plants controls that will introduce a minimum 0.50 percent anti-strip by weight of asphalt binder used unless a rate is otherwise recommended by the anti-strip manufacturer. The PGAB and anti-strip blend shall meet the **PG 64E-28** requirements. The Contractor shall provide supporting test data showing the PGAB and anti-strip blend meet the required criteria.
3. The design traffic level for mix placed shall be <3 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
4. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
10. Section 106.6 Acceptance, (2) **Method D** as specified Section 401.21 - Quality Assurance Methods B and D.
20. The combined aggregate gradation required for this item shall be classified as a 9.5mm Thin Lift Mixture (TLM) mixture, using the Aggregate Gradation Control Points as defined in 703.09.
24. See Special Provision 401 - HMA with Fine Micro-Deval Requirement for project specifics.

## Intersection Improvements &amp; Shoulder Reconstruction

August 29, 2025

30. The incentive/disincentive provisions for density shall not apply. Rollers shall meet the requirements of this special provision. The use of an oscillating steel roller shall be required to compact all mixtures pavements placed on bridge decks.
31. Compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **10 ton** vibratory and a **3-5 ton** finish roller for roadway work. A daily paving report, summarizing the mixture type, mixture temperature, equipment used, environmental conditions, and number of roller passes, shall be recorded and signed by a **NETTCP Certified Paving Inspector acting as the Contractor's representative** and presented to the Department's representative by the **end of the working day**.
32. In areas inaccessible to a **10 ton** roller, compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **3-5 ton** vibratory roller. Areas less than 2 feet wide shall be compacted with a minimum of a **150 pound** plate compactor. An approved release agent is required to ensure the mixture does not adhere to hand tools, rollers, pavers, and truck bodies. The use of petroleum based fuel oils, or asphalt stripping solvents will not be permitted.
33. Roadway HMA mixtures shall be placed with a track or rubber tire mounted, self-contained, self-propelled paver of sufficient size to place Hot Mix Asphalt Pavement in the shoulder or similar construction.
34. The Contractor shall saw cut at a consistent width to allow transverse rolling of the trench. When applicable, a **10 ton** roller will be required. In areas inaccessible to a **10 ton** roller, compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **3-5 ton** vibratory roller. The **minimum width of the trench shall be 5 feet** to accommodate a **3-5 ton** vibratory roller. Payment for additional milling or saw cutting required shall not be considered directly, but instead shall be considered incidental to the paving items.
42. The Contractor shall plan its construction sequencing so that no longitudinal joints fall within the mainline travelway lanes (excluding center turn lanes)
43. The contractor shall mill a stepped butt joint into the existing pavement at both the beginning and end joints for each pavement layer excluding the bottom base layer. For each layer, the stepped joint shall be cut to the depth and width of the pavement layer being placed and extend 5 feet beyond the immediate underlying layer. The **butt joint** for the overlying layer shall be **completed prior** to placing the adjacent layer. The Resident may extend this length as determined by the condition of the match point. No additional payment will be made for the milling of the butt joints but will instead be considered incidental to associated paving items.
55. The vertical surface of the longitudinal joint between the edge of existing HMA or Concrete and proposed HMA shall be completely sealed with hot-applied rubberized asphalt material, meeting the requirements of **Type 4 or mastic crack seal**. Sealant shall be applied to form a complete seal between the existing and proposed HMA and shall extend up the vertical surface to within ½ inch of the top of the HMA base layers (**2.5 inches**). This work shall be considered **incidental** to the contract pavement items.
57. The total thickness of the HMA base layers shall be a minimum of 4 inches or shall match the thickness of the existing HMA over the concrete core.

Tack Coat

A tack coat of emulsified asphalt, RS-1, RS-1h, CRS-1 or CRS-1h, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.030 gal/yd<sup>2</sup>, and on milled pavement approximately 0.05 gal/yd<sup>2</sup> prior to placing a new course. A fog coat of emulsified asphalt shall be applied between shim /base courses and surface course as well as to any bridge membrane prior to the placement of HMA layers at a rate not to exceed 0.030 gal/yd<sup>2</sup>. Tack used will be **paid for at the contract unit price** for Item 409.15 Bituminous Tack Coat.

SPECIAL PROVISION  
SECTION 603  
PIPE CULVERTS AND STORM DRAINS

603.12 Basis of Payment: This section shall be amended with the addition of the following:

| <u>Pay Item</u> |                                            | <u>Pay Unit</u> |
|-----------------|--------------------------------------------|-----------------|
| 603.175         | 18 Inch Reinforced Concrete Pipe Class III | Linear Foot     |
| 603.195         | 24 Inch Reinforced Concrete Pipe Class III | Linear Foot     |
| 603.215         | 36 Inch Reinforced Concrete Pipe Class III | Linear Foot     |

SPECIAL PROVISION  
SECTION 604  
MANHOLES AND CATCH BASINS

This section is amended by the addition of the following:

Description: This work consists of constructing catch basins and manholes in accordance with the requirements of Section 604 of the Standard Specifications and as shown in the Standard Details.

Method of Measurement: Measurement shall be in accordance with Subsection 604.05.

Basis of Payment: Payment shall be in accordance with Subsection 604.06.

Payment will be made under:

| <u>Pay Item</u> |                             | <u>Pay Unit</u> |
|-----------------|-----------------------------|-----------------|
| 604.132         | 5 Foot Diameter Catch Basin | Each            |
| 604.154         | 72 Inch Manhole             | Each            |

SPECIAL PROVISION  
SECTION 609  
CURB  
(Terminal Curb Type 1)

Basis of Payment. This section shall be amended with the addition of the following:

| <u>Pay Item</u> |                                 | <u>Pay Unit</u> |
|-----------------|---------------------------------|-----------------|
| 609.221         | Terminal Curb Type 1            | Linear Foot     |
| 609.222         | Terminal Curb Type 1 – Circular | Linear Foot     |

SPECIAL PROVISION  
SECTION 652  
MAINTENANCE OF TRAFFIC

Approaches. Approach signing shall include the following signs at a minimum. Field conditions may warrant the use of additional signs as determined by the Resident.

Road Work Next X\* Miles  
Road Work 500 Feet (Ahead)  
End Road Work

Work Areas. At each work site, signs and channelizing devices shall be used as directed by the Resident.

Signs include:

Road Work xxxx<sup>1</sup>.  
One Lane Road Ahead  
Flagger Sign

Other typical signs include:

Be Prepared to Stop  
Low Shoulder  
Bump  
Pavement Ends

The above lists of Approach signs and Work Area signs are representative of the contract requirements. Other sign legends may be required.

Unless otherwise defined in Special Provision 105/107 or submitted and approved in the Traffic Control Plan, the following shall apply:

- The Contractor shall conduct their operations in such a manner that the roadway will not be restricted to one lane for more than 2,500 feet at each work area and no more than 4,000 feet for paving, milling, and crack seal/repair work areas.
- Where more than one work area restricts traffic to one lane operation, these work areas shall be separated by at least 1 mile of two-way operation.

**Temporary Centerline** A temporary centerline shall be placed each day on all new pavement to be used by traffic. The temporary centerline, when specified of reflectorized traffic paint, shall conform to the standard marking patterns used for permanent markings. Failure to apply a temporary centerline daily will result in a Traffic Control Violation and suspension of paving operations until temporary markers are applied to all previously placed pavement.

<sup>1</sup> "Road Work Ahead" to be used in short duration operations and "Road Work xx feet" to be used in stationary operations as directed by the Resident.

**SPECIFICATIONS  
FOR  
NORTH MAIN STREET  
UTILITIES RELOCATION  
TOWN OF PITTSFIELD, MAINE**

**APRIL, 2025**



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## **TABLE OF CONTENTS**

# NORTH MAIN STREET UTILITIES RELOCATION

## TOWN OF PITTSFIELD, MAINE

### TABLE OF CONTENTS

The following specifications pertain to  
the sewer and water related work.

Drawing List

Page  
DL-1

### INDEX

### TECHNICAL SPECIFICATIONS

#### Section

#### Title

#### **DIVISION 1 - GENERAL REQUIREMENTS**

|       |                                   |
|-------|-----------------------------------|
| 01026 | Measurement and Payment           |
| 01300 | Submittals                        |
| 01400 | Quality Control                   |
| 01500 | Temporary Construction Facilities |

#### **DIVISION 2 - SITE CONSTRUCTION**

|       |                            |
|-------|----------------------------|
| 02110 | Site Clearing              |
| 02160 | Excavation Support Systems |
| 02200 | Earthwork                  |
| 02510 | Water Distribution Systems |
| 02700 | Sewerage                   |
| 02717 | Manhole Rim Adjustment     |
| 02930 | Lawns and Grasses          |

#### **DIVISION 3 - CONCRETE**

|       |                        |
|-------|------------------------|
| 03300 | Cast-in-place Concrete |
|-------|------------------------|

#### **DIVISION 7 - THERMAL AND MOISTURE PROTECTION**

|       |            |
|-------|------------|
| 07200 | Insulation |
|-------|------------|

## **DRAWING LIST**

DRAWING LIST

NORTH MAIN STREET UTILITIES RELOCATION

TOWN OF PITTSFIELD, MAINE

SHEET

TITLE

GENERAL

|     |                       |
|-----|-----------------------|
| G-0 | Cover Sheet           |
| G-1 | General Notes & Index |

CIVIL

|     |                                      |
|-----|--------------------------------------|
| C-1 | Utility Relocation Plan and Profiles |
| C-2 | Civil Details                        |
| C-3 | Civil Details                        |

## **TECHNICAL SPECIFICATIONS**

## **DIVISION 1**

### **GENERAL REQUIREMENTS**

**SECTION 01026**

**MEASUREMENT AND PAYMENT**

## SECTION 01026 - MEASUREMENT AND PAYMENT

### PART 1 - GENERAL

#### 1.01 DESCRIPTION

- A. Scope: This section describes the measurement and payment for the work to be completed under each bid item in the Proposal. The descriptions may not reference all of the associated Work. Work specified, but not specifically designated as a bid item, is considered incidental to all bid items.
- B. Payment procedures are described in the Agreement, General Conditions, and related documents.
- C. Work Covered: The total price for the Contract shall cover all work shown on the Contract Drawings and required by the Specifications and other Contract Documents. All costs in connection with the Work, including furnishing all materials, equipment, supplies and appurtenances; providing all construction, and tools; and performing all necessary labor and supervision to fully complete the Work, shall be included in the lump sum price bid or the unit prices specified on the bid sheets. No item that is required for the proper and successful completion of the Work will be paid for outside of, or in addition to, the prices submitted in the bid. All Work not specifically identified within this section shall be considered incidental to the project and a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the prices.

### PART 2 - PRODUCTS (not applicable)

## PART 3 - EXECUTION

### 3.01 SCHEDULE OF PAYMENT ITEMS

#### A. Item 1 - (MaineDOT 202.126) Remove Concrete Slab to Full Depth:

1. Payment: Unit price per square yard of concrete as stated in the Proposal.
2. Measurement: As measured in place to the pay limits shown on the Drawings and as directed by the on-site resident.
3. Includes saw cutting existing roadway pavement and concrete base, removal of existing concrete road base.
4. Schedule of Payment: 100% upon square yard measurement that is removed.

#### B. Item 2 - (MaineDOT 202.15) Remove Existing Manhole:

1. Payment: Unit price as stated in the Proposal per unit shown to be removed on the Drawings or as directed by the Engineer.
2. Measurement: Measured as complete units.
3. Includes cleaning, earthwork, compaction, removal and disposal of materials, and restoration of disturbed surfaces.
4. Schedule of Payment: 100% upon completion.

#### C. Item 3 - (MaineDOT 202.61) Remove/Abandon Sewer Pipe:

1. Payment: Lump sum price as stated in the Proposal.
2. Measurement: Per completion of work.
3. Includes removal or abandonment of existing utility pipes along new sewer routes where encountered, removal of existing sewer as necessary for new work, including but not limited to all capping of sewer lines, other materials as shown on the Drawings, including all disposal costs, labor, materials, and equipment.

4. Schedule of Payment: Measured by actual percent completion at time of requisition.

D. Item 4 – (MaineDOT 203.21) Rock Excavation and Removal:

1. Payment: Unit price per cubic yard as stated in the Proposal.
2. Measurement: Measurement of ledge in place prior to excavation within pay limits as shown on the Drawings and as determined by the Engineer.
3. Includes drilling, excavation, dewatering, removal, replacement of materials removed with select gravel, and disposal of all removed material. To qualify as ledge, rocks and boulders must be greater than two cubic yards each.
4. Schedule of Payment: Upon excavation - 100%.
5. Note: No unit price adjustment will be made for ledge removal if quantity varies from that estimated on the bid sheet. This is an indeterminate item and it should be recognized that the quantity may be higher or lower than stated.

E. Item 5 – (MaineDOT 502.461) Structural Concrete, Replace Concrete Slab:

1. Payment: Unit price per square foot of concrete as stated in the Proposal.
2. Measurement: As measured in place to the pay limits shown on the Drawings and as directed by the Engineer.
3. Includes preparation and placement of reinforcement, forming as required, epoxy bonding agent, placement of concrete, curing, testing as required for succeeding placement of pavement, and all incidentals to repair the existing concrete road base as noted and detailed on the Drawings and as directed by the Engineer.
4. Schedule of Payment: 100% upon installation.

F. Item 6 - (MaineDOT 801.03) Test Pits:

1. Payment: Unit price per each test pit unit as stated in the Proposal.
2. Measurement: Per unit completed.
3. Includes clearing, excavation, dewatering, backfilling, and compaction in locations as shown in Drawings or as directed by the Engineer.
4. Schedule of Payment: 100% upon completion.
5. Limitation: In order to qualify as a test pit for payment, at least 5 CY of material must be excavated in search of a specific buried site feature. Only one test pit payment per each specific site feature will be made.

G. Item 7 – (MaineDOT 801.141) 4 inch Sanitary Sewer (SDR-35):

1. Payment: Unit price per linear foot as stated in the Proposal.
2. Measurement: Linear feet as measured along the horizontal projection of the centerline of the pipe.
3. Includes clearing, excavation, bedding, backfill, compaction, roadway base and subbase (meet MaineDOT specifications), shoring and bracing, dewatering, SDR-35 PVC pipe and fittings as shown on the Drawings or as required.
4. Schedule of Payment: Installation - 90%; compaction and cleaning - 10%.

H. Item 8 – (MaineDOT) 801.50 Vertical Sewer Cleanouts:

1. Payment: Unit price per each installation as stated in the Proposal.
2. Measurement: Measured as complete units.
3. Includes: Earthwork, shoring and bracing, dewatering, frame and cover, insulation, concrete, and all piping, fittings and supports contained as specified and as shown on the Drawings.

4. Schedule of Payment: Installation - 90%; finishing cover - 10%.
- I. Item 9 – (MaineDOT 812.162) Adjust Existing Sewer Manhole to Grade:
1. Payment: Unit price per each installation as stated in the Proposal.
  2. Measurement: Measured as complete units.
  3. Includes removing and resetting existing manhole covers, and utilizing concrete risers (new if required), mortar and all materials and equipment needed to adjust sanitary sewer manholes to new road grade per plan details.
  4. Schedule of Payment : 100% upon installation.
- J. Item 10 - (MaineDOT 812.163) Modify Sewer Manhole, Adjust Frame & Cover:
1. Payment: Unit price per unit as stated in the Proposal.
  2. Measurement: Per completion of work.
  3. Includes: excavation, removal and reset existing frame and cover, modify/turn concrete cone, any precast concrete risers needed, butyl rubber sealant, mortar, poly frost barrier, resetting frame and cover, backfill restoration to original site conditions, and all incidentals.
  4. Schedule of Payment: 100% per unit upon completion.
  5. Explanation: This item represents existing sewer manhole (Sta. 67+10 left) in order to accommodate new curbing.
- K. Item 11 – (MaineDOT 822.3401) 8 inch Ø DI Pipe, Valves and Fittings:
1. Payment: Unit price per linear foot as stated in the Proposal.
  2. Measurement: As measured along the horizontal projection of the centerline of the pipe.
  3. Includes: Clearing, excavation, bedding, backfill, compaction, base and subbase, thrust blocks, shoring and bracing, dewatering,

disinfection, pipe, testing, and fittings as shown on the Drawings or as required.

4. Schedule of Payment: Installation - 85%; leakage and compaction testing - 10%; flushing and disinfection - 5%.

L. Item 12 - (MaineDOT 827.331) Trench Insulation 2" Rigid:

1. Payment: Unit price per square yard as stated in the Proposal.
2. Measurement: Measured in place as shown on the Drawings or as directed by the Engineer.
3. Includes insulation over pipe and structures as shown on the Drawings and as specified.
4. Schedule of Payment: 100% upon installation.
5. Explanation: If 4" insulation called for in places, payment will be based on double the 2" price.

M. Item 13 - (MDOT 832.07) Owner's Testing Allowance:

1. Explanation: Testing listed in the Contract Documents as being the Owner's responsibility will be paid for by the Contractor and reimbursed through this allowance. This allowance does not apply to any tests which are stated in the Contract Documents as being the Contractor's responsibility.
2. Payment: Actual costs incurred.
3. Measurement: Submit evidence of paid invoices from testing firm.
4. Includes: Testing costs, such as concrete tests, compaction tests, etc., that are specified as Owner's responsibility are included in this item. Contractor shall pay for all such tests. All testing costs specified as the Contractor's responsibility shall remain so and in no way shall the included allowance be used for such costs. All testing costs shall be billed directly to Contractor, and a final Change Order will be issued balancing the actual testing costs to the Contractor as compared to the stated allowance.

5. Schedule of Payment: 100% - upon completion of tests and evidence of paid invoice submitted.

\*\*\* END OF SECTION \*\*\*

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OA2075

**SECTION 01300**

**SUBMITTALS**

## SECTION 01300 - SUBMITTALS

### PART 1 - GENERAL

#### 1.01 DESCRIPTION OF REQUIREMENTS

- A. Submittal requirements specified in this section include Shop Drawings, product data, samples and miscellaneous Work-related submittals. Individual submittal requirements are specified in applicable sections for each unit of work. Refer to other Division-1 sections and other Contract Documents for requirements of administrative submittals.
- B. Definitions: Work-related submittals of this section are categorized for convenience as follows:
  - 1. Shop Drawings include specially-prepared technical data for this project, including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information.
  - 2. Product data include standard printed information on materials, products and systems.
  - 3. Samples include both fabricated and unfabricated physical examples of materials, products and units of Work; both as complete units and as smaller portions of units of Work; either for limited visual inspection or (where indicated) for more detailed testing and analysis.
- C. Miscellaneous submittals related directly to the Work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, quality testing and certifying reports, copies of industry standards, Record Drawings, field measurement data, operating and maintenance materials, overrun stock, and similar information, devices and materials applicable to the Work.
- D. American Iron & Steel
  - 1. Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A – Agriculture, Rural Development, Food and Drug

Administration and Related Agencies Appropriations Act, 2017) applies an American Iron and Steel requirement to this project.

E. Build America, Buy America Act

1. All of the iron and steel, manufactured products, and construction materials used in the project will be and/or have been produced in the United States in a manner that complies with the Build America, Buy America Requirements.

1.02 GENERAL SUBMITTAL REQUIREMENTS

A. Coordination and Work Sequencing:

1. Coordinate preparation and processing of submittals with performance of the Work so that Work will not be delayed by submittals.
2. Coordinate and sequence different categories of submittals for same Work, and for interfacing units of Work, so that one will not be delayed for coordination of Engineer's review with another.
3. Determine and verify all interface conditions, catalog numbers and similar data.
4. Coordinate with other trades and equipment manufacturers.
5. Indicate all deviations from the requirements of the Contract Documents.
6. Field measure all critical project dimensions prior to issuing submittal and to fabricating products shown on the submittals.

- B. Preparation of Submittals: Provide either cover sheet, or permanent marking on each submittal to identify project, date, Contractor, Subcontractor, submittal name and similar information to distinguish it from other submittals. Include specifications section reference and submittal log reference to clearly define to what portion of Work that is applicable to submittal. Show Contractor's executed review and approval marking. Submittals which are received from sources other than through Contractor's office will be returned by Engineer "without action".

- C. Number of Submittals (Paper): Submit number of copies to be returned plus 4 copies which will be retained by the Engineer. Additional copies may be requested by the Engineer.
- D. Electronic Submission: Submittals may be sent via email to [submittals@olverassociatesinc.com](mailto:submittals@olverassociatesinc.com). Equipment submittals shall be sent as paper copies. Submittals with 11" x 17" or larger pages/plans will not be accepted in electronic format. Any submittals over 50 pages should be provided as paper submissions.
- E. General Distribution: Provide additional distribution of submittals (not included in foregoing copy submittal requirements) to Subcontractors, suppliers, fabricators, installers, governing authorities and others as necessary for proper performance of the Work. Include such additional copies in transmittal to Engineer where required to receive "Action" marking before final distribution. Record distributions on transmittal forms.

#### 1.03 SUBMITTAL CONTENTS

- A. Shop Drawings: Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated), with name of preparer indicated (firm name). Show dimensions and note which are based on field measurement. Identify materials and products in the Work shown. Indicate compliance with standards, and special coordination requirements. Do not allow Shop Drawing copies without appropriate final "Action" markings by Engineer to be used in connection with the Work.
- B. Product Data: Collect required data into one submittal for each unit of Work or system; and mark each copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked, and special coordination requirements.
- C. Samples: Provide units identical with final condition of proposed materials or products for the work. Include "range" samples (not less than 3 units) where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where Engineer's selection is required. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation

of color, pattern, texture and type by Engineer. Engineer will not "test" samples (except as otherwise indicated) for compliance with other requirements, which are therefore the exclusive responsibility of Contractor.

E. AIS product submittals must include a letter from the manufacturer of the product that includes the following features:

1. Submittal is on manufacturer's letterhead;
2. It is signed by a manufacturer's representative;
3. It is dated with a current date;
4. Lists the specific product(s) on the submittal and letter cover;
5. Lists the project name and location;
6. Lists the specific place(s) of manufacture in USA (City & State); and,
7. References the American Iron & Steel mandate and preferably the Consolidated Appropriations Act of 2017 and/ or Section 746 of Title VII.

Submittals on AIS projects that do not have a letter meeting the above requirements will not be processed.

#### 1.04 PROCESSING OF SUBMITTALS

- A. Engineer's Action: Where action and return is required or requested, Engineer will review each submittal, mark with "Action", and where possible return within two weeks of receipt. Where submittal must be held for coordination, or additional time is required for review of complex items, Contractor will be so advised by Engineer without delay.
- B. Action Stamp: Engineer's action stamp, for use on submittals to be returned to Contractor, is self-explanatory.
- C. Additional Submittals: If an intermediate submittal is necessary, process the same as the initial submittal.
- D. Allow two to four weeks for reprocessing each submittal.
- E. No extension of Contract Time will be authorized because of failure to transmit submittals to the Engineer sufficiently in advance of the Work to permit processing.

1.05 INCORPORATION OF WORK

- A. No work shall be incorporated into project until such time as Contractor has formally submitted a Submittal for all materials and until Engineer has reviewed and approved submittal.
- B. No payment will be approved for any work incorporated into project without an approved submittal.
- C. Failure by Contractor to provide Submittals for work in a timely manner shall be grounds for suspension of contract by Owner at no penalty to Owner. Contract will not be resumed until Contractor has properly issued all Submittals. No additional contract time will be provided for period of time that project is delayed due to submittals not being issued in a timely manner.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

\*\*\*END OF SECTION\*\*\*

**SECTION 01400**  
**QUALITY CONTROL**

## SECTION 01400 - QUALITY CONTROL

### PART 1 - GENERAL

#### 1.01 SUMMARY

- A. This Section includes administrative and procedural requirements for quality-control services.
- B. Quality-control services include inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by Engineer.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.
- D. Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.
  - 1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified inspections, tests, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-control services required by Engineer, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

#### 1.02 RESPONSIBILITIES

- A. Contractor Responsibilities: Unless otherwise indicated as the responsibility of another identified entity, Contractor shall provide inspections, tests, and other quality-control services specified elsewhere in the Contract documents and

required by authorities having jurisdiction. Costs for these services are included in the Contract Price.

- B. Contractor's Tests: Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Contractor's responsibility, the Contractor shall employ and pay a qualified independent testing agency to perform quality-control services. Costs for these services are included in the Contract Price.
- C. Owner's Tests: Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Owner's responsibility, the Owner will employ and pay a qualified independent testing agency to perform those services. Where a testing allowance is included as a payment item, Contractor shall be responsible for the payment of all Owner's tests.
- D. Retesting: The Contractor is responsible for retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether the original test was Contractor's responsibility.
- E. The cost of retesting construction, revised or replaced by the Contractor, is the Contractor's responsibility where required tests performed on original construction indicated noncompliance with Contract Document requirements.
- F. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as required. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:
  - 1. Provide access to the Work.
  - 2. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
  - 3. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
  - 4. Provide facilities for storage and curing of test samples.

5. Deliver samples to testing laboratories.
  6. Provide the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
  7. Provide security and protection of samples and test equipment at the Project Site.
- G. Duties of the Testing Agency: The independent agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with the Engineer and the Contractor in performance of the agency's duties. The testing agency shall provide qualified personnel to perform required inspections and tests.
1. The agency shall notify the Engineer and the Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  2. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
  3. The agency shall not perform any duties of the Contractor.

#### 1.03 SUBMITTALS

- A. Unless the Contractor is responsible for this service, the independent testing agency shall submit a certified written report, in duplicate, of each inspection, test, or similar service to the Engineer. If the Contractor is responsible for the service, submit a certified written report, in duplicate, of each inspection, test, or similar service through the Contractor.
- B. Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:
1. Date of issue.
  2. Project title and number.
  3. Name, address, and telephone number of testing agency.

4. Dates and locations of samples and tests or inspections.
5. Names of individuals making the inspection or test.
6. Designation of Work and test method.
7. Identification of product and Specification Section.
8. Complete inspection or test data.
9. Test results and an interpretation of test results.
10. Ambient conditions at the time of sample taking and testing.
11. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting.

#### 1.04 QUALITY ASSURANCE

- A. Qualifications for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, that are prequalified as complying with the American Council of Independent Laboratories' "Recommended Requirements for Independent Laboratory Qualification" and that specialize in the types of inspections and tests to be performed.
- B. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the state where the Project is located.

#### PART 2 - PRODUCTS (Not Applicable)

## PART 3 - EXECUTION

### 3.01 REPAIR AND PROTECTION

- A. General: Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes.
- B. Protection construction exposed by or for quality-control service activities, and protect repaired construction.
- C. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.

\*\*\*END OF SECTION\*\*\*

**SECTION 01500**

**TEMPORARY CONSTRUCTION FACILITIES**

## SECTION 01500 - TEMPORARY CONSTRUCTION FACILITIES

### PART 1 - GENERAL

#### 1.01 REQUIREMENTS

- A. Provide temporary facilities including:

Contractor's office and storage facilities as needed by contractor  
Sanitary facilities for Contractor's personnel  
Fire protection  
Safety equipment  
Rerouting of all sewage flows around work areas as required  
Maintain all existing water and sewer utilities active  
Daily site maintenance measures

- B. Signs, Barricades, and Warning Devices: Section 01570, Traffic Control.

- C. Other Temporary Facilities: See General Conditions, Article 6.

- D. Payment for temporary facilities is incidental to the Project.

#### 1.02 QUALITY ASSURANCE

- A. General: Comply with OSHA and local regulations, NFPA, and local regulations and requirements.
- B. Conditions of Use: Install, operate, maintain and protect temporary facilities in a manner and at locations which will be safe, non-hazardous, sanitary and protective of persons and property.

#### 1.03 SUBMITTALS

- A. Flow diversion and by-pass plan shall be submitted in advance for review and approval prior to implementing flow diversion or by-pass operations.

## PART 2 - PRODUCTS (Not Applicable)

## PART 3 - EXECUTION

### 3.01 CONTRACTOR'S OFFICE AND STORAGE FACILITIES

- A. General: Provide facilities adequate for Contractor's administration of Contract, shelter for personnel, and storage of materials and equipment which must be protected from weather. Extent of facilities to be provided shall be at discretion of and as needed by Contractor, but shall not be responsibility of Owner. Engineer reserves the right to reject equipment and materials that have not been properly stored by Contractor.

### 3.02 SANITARY FACILITIES

- A. General: Provide self-contained toilet units in sufficient numbers for use of all persons involved in the Work.

### 3.03 FIRE PROTECTION AND SAFETY EQUIPMENT

- A. General: Provide fire extinguishers, first aid facilities and other safety facilities as required by local, state, and OSHA requirements.

### 3.04 REROUTING OF SEWAGE

- A. Provide all necessary pumping or gravity lines to convey sewage around work areas as needed.
- B. Maintain capacity of existing sewer systems at all times.

### 3.05 MAINTAIN ALL EXISTING UTILITY SERVICES

- A. Locate all buried utility services and main lines for water, sewer, storm drainage, telephone, cable, electric, gas, and others as may exist as shown on plans or as indicated by Owner of utility.
- B. Confirm all utility locations with Owner of utility prior to excavation.
- C. Maintain all active utility services for duration of project and return to equal or better condition as existed prior to project at the completion of the work.

- D. Repair at no cost to the Owner all utilities damaged by Contractor's work in accordance with provisions of Contract Documents.

3.06 DAILY TEMPORARY SITE MEASURES

- A. Clean all roads and work areas by sweeping.
- B. Apply calcium chloride to unpaved road surfaces for dust control.
- C. Barricade all open excavations utilizing MDOT approved barrels, Jersey barriers, or sheeting material in a manner acceptable to Owner.
- D. Clean up and discard all debris daily.
- E. Where appropriate, fill excavation and remove construction equipment from public roadways on a daily basis.

\*\*\*END OF SECTION\*\*\*

**DIVISION 2**

**SITE CONSTRUCTION**

**SECTION 02110**

**SITE CLEARING**

## SECTION 02110 - SITE CLEARING

### PART 1 - GENERAL

#### 1.01 DESCRIPTION OF WORK

- A. Site clearing work to be conducted as part of this project includes, but is not limited to:
1. Protection of existing trees indicated to remain or outside of work area.
  2. Removal and/or relocation of trees and other vegetation.
  3. Clearing and grubbing, including removal of waste materials in project area.
  4. Removing and/or resetting above ground improvements, including but not limited to pipes, landscaping, and site features.
  5. Removal and/or resetting where required of underground features and utilities including manholes, sewers, water mains, pipes and culverts.
  6. Removal of sidewalks, roadways, driveways, curbing and resetting where required.
  7. Removal of pavement from utility areas.

#### 1.03 PROJECT CONDITIONS

- A. Confine all clearing and grubbing to the following locations:
1. Areas where work is required to be done, restricted to the minimum extent required to properly install the work.
  2. Within the clearing limits shown on the Drawings.
  3. Within the easements provided by Owner.
  4. Within the property lines of lands owned by Owner.

- B. Traffic: Conduct site clearing operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction.
- C. Protection of Existing Improvements: Provide protections necessary to prevent damage to existing improvements unless indicated to be permanently removed.
  - 1. Protect improvements on adjoining properties and on Owner's property.
  - 2. Restore damaged improvements, whether or not shown on the Drawings, to their original condition, as acceptable to property owners.
- D. Protection of Existing Trees and Vegetation: Protect existing trees and other vegetation indicated to remain in place against unnecessary cutting, breaking or skinning of roots, skinning or bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary guards to protect trees and vegetation to be left standing.
  - 1. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations in a manner acceptable to Engineer. Employ a licensed arborist to repair damage to trees and shrubs.
- E. Improvements on Private Property: Authority for performing removal and alteration work on private property will be obtained by Owner prior to award of contract.
- F. Reset Disturbed Property Pins or Monuments by a Professional Surveyor.
- G. Asbestos Cement Piping shall be disposed of as required by the DEP. Asbestos pipe is expected to be encountered in this work.
  - 1. All disturbed asbestos cement (AC) sewer piping shall be removed from trench and segregated from general construction fill. Disposal of all AC piping materials is regulated under DEP Chapter 401.
  - 2. Disposal of all other piping materials shall comply with DEP disposal requirements and may require a beneficial use license prior to use as construction fill.

#### 1.04 EXISTING SERVICES

- A. General: Indicated locations are approximate; determine exact locations before commencing work.
- B. Identify service lines and capping locations on Project Record Documents.

#### 1.05 STORAGE AND HANDLING

- A. Store trees, plants and shrubs temporarily removed and intended to be replanted in protected areas and give ample water to keep them in a thriving condition for subsequent replanting.
- B. Store fences, signs, guardrails, curbing, and other items removed during construction at approved locations for subsequent reinstallation.
- C. Obstruction of roads, driveways, sidewalks, gutters and drainage ditches, swales and channels with stored materials is not permitted.

#### 1.06 JOB CONDITIONS

- A. The locations of trees, plantings, vegetation, sidewalks, fences, curbs and other living and nonliving items, as shown on the Drawings, have been determined by actual surveys at the time surveys were made. Since that time, the condition of the site may have changed. Remove and replace all obstacles and obstructions, as required to complete the Work, whether shown on the Drawings or not, at no extra cost to Owner.
- B. Explosives are not permitted for clearing and grubbing operations.
- C. Use all means necessary to protect existing objects not indicated to be removed. In the event of damage, make all necessary repairs and replacements and restore to its original condition, as acceptable to Engineer.

#### 1.07 SCHEDULING

- A. Pavements which are required to be removed shall be saw cut in advance, but do not remove until installation of work commences.

- B. Do not remove highway signs, guardrails, and other control, safety, and warning devices until just prior to installation work in the immediate area of such improvements.
- C. Do not remove fences until Owner is notified at least four (4) days in advance. Do not remove fences more than 48 hours in advance of work in that location. Provide temporary fencing acceptable to Owner where indicated on Drawings.
- D. All items removed but scheduled to be replaced shall be reinstalled as soon as possible after completion of all work in that area.

## PART 2 - PRODUCTS (Not Applicable)

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Verify that all boundaries, including permanent and temporary easements, property lines, rights-of-way, and grading limits have been accurately and clearly marked.
- B. Verify that work areas and other items of work are accurately located and clearly marked.

### 3.02 PREPARATION

- A. Identify all trees, plantings, and other objects which are considered necessary to be removed, cut, trimmed, or temporarily relocated.
- B. Accompany Engineer through the site to inspect items to be trimmed, removed, relocated or replanted prior to start of work. If Contractor wishes to remove, either permanently or temporarily, any vegetation not specifically identified on the Drawings to be removed, make request to Engineer at least 7 days in advance. All vegetation must be maintained unless specifically authorized for removal by Engineer or in writing by property owner.

### 3.03 SITE CLEARING

- A. General: Remove trees, shrubs, grass, and other vegetation, improvements, or obstructions, as required, to permit installation of new construction. Remove

similar items elsewhere on site or premises as specifically indicated. Removal includes digging out and off site disposal of stumps and roots.

- B. Topsoil: Topsoil is defined as friable clay loam surface soil found in a depth of not less than 4 inches. Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones, and other objects over 2 inches in diameter, and without weeds, roots, and other objectionable material.

1. Where existing trees are indicated to remain, leave existing topsoil in place within drip lines to prevent damage to root system.

- C. Clearing and Grubbing: Clear only trees, shrubs, and other vegetation as approved by Engineer.

1. Completely remove stumps, roots, and other debris protruding through ground surface.
2. Use only hand methods for grubbing inside drip line of trees indicated to remain.
3. Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation or earthwork is indicated. Place fill material in horizontal layers not exceeding 6 inches loose depth, and thoroughly compact each layer to a density equal to adjacent original ground.
4. Remove and waste materials or debris in the work area and dispose of off-site.
5. Removal/Restoration of Existing Improvements: Remove and restore existing above grade and below grade improvements as indicated and as necessary to facilitate new construction. Store fences, signs, walks, guard rails, curbs, and other items designated to be restored.

- D. Trees and Plantings:

1. In grassed, planted, and open areas, do not remove or trim trees or plantings without the prior permission of Engineer. Remove and preserve small trees, plantings, flowers and similar vegetation for reuse.

2. In wooded areas, trees may be removed and/or trimmed, as required, for the proper installation of the Work. Gross and unnecessary removal of trees is not permitted.
3. If it is impractical to fell trees as a whole, remove them in sections according to standard practices of professional tree removal. Fell trees to the center of the area being cleared to minimize damage to trees that are to be left standing.
4. Immediately after felling a tree, remove branches, cut trunk and limbs and remove all materials from the site and dispose of in a lawful manner. If cut trees are noted to remain on site and become the property of the owner, cut all tree branches and trunk sections in excess of 3" in diameter in to two foot lengths, and stack neatly in a location as directed by the Engineer.
5. All trees to be trimmed shall be evenly cut to achieve neat severance with the least possible damage to the tree. Review proposed tree trimming with Engineer prior to work.

E. Pavements, Walks & Curbs:

1. Remove existing pavements, walks, and curbs to the limits shown on the Drawings, or if not shown, to the minimum extent possible to perform the work.
2. Saw-cut asphalt and concrete surfaces before removal. Use a saw which will cut a neat, straight joint line.

F. Walls, Fences, and Other Obstructions:

1. All walls, fences, signs, and other obstructions encountered shall be carefully removed and stored for subsequent replacement.
2. Do not disturb property markers unless absolutely necessary. If it becomes necessary to disturb or remove a property marker, employ a Registered Land Surveyor at no extra cost to the Owner to establish the property marker location by providing a minimum of four (4) ties to the marker. The Registered Land Surveyor shall replace the property marker as soon as possible.

G. Manholes, Catchbasins, Tanks, and Culverts:

1. Remove all manholes, and covers, risers, tops, cones, barrels, base sections and slabs where indicated on the Drawings or as directed by the Engineer.
2. Remove all pipes where indicated by the Drawings or as directed by the Engineer.
3. Fill all voids created with select granular fill or with aggregate subbase and base if under traveled ways or sidewalks.
4. Compact all backfill as specified herein.

H. Electrical Utilities:

1. Maintain electric utilities for duration of project.
2. Temporarily relocate if interfering with work area, or permanently relocate as indicated on Drawings, or as directed by Engineer.
3. Restore at completion of project.

3.04 SALVAGEABLE ITEMS

- A. Owner retains first refusal of salvage value of all items removed from site including stumpage, wood, site improvements, and incidentals. Contractor shall allow Owner to inspect all items removed during site clearing operations. If Owner wishes to retain items, Contractor shall remove them to storage area to be identified by Owner.
- B. Contractor shall not claim loss of salvage value for items retained by Owner as a justification for a price increase or change order under this Contract.

3.05 DISPOSAL OF WASTE MATERIALS

- A. Contractor shall remove and dispose of all site clearing debris and items that Owner does not elect to salvage.

- B. Removal from Owner's Property: Remove waste materials from Owner's property and dispose of by methods conforming to all Federal, State, and local regulations.
- C. Burning on Owner's Property: Burning is not permitted on Owner's property.

\*\*\*END OF SECTION\*\*\*

02110-8

**SECTION 02160**

**EXCAVATION SUPPORT SYSTEMS**

## SECTION 02160 - EXCAVATION SUPPORT SYSTEMS

### PART 1 - GENERAL

#### 1.01 DESCRIPTION OF WORK

- A. General support system work includes, but is not limited to, the following:
  - 1. Shoring and bracing necessary to protect existing buildings, treatment reactors, streets, walkways, utilities, and other improvements and excavation against loss of ground or caving embankments.
  - 2. Maintenance of shoring and bracing.
  - 3. Removal of shoring and bracing, as required.
- B. Types of shoring and bracing systems include, but are not limited to, the following:
  - 1. Steel H-section (soldier) piles.
  - 2. Timber lagging.
  - 3. Steel sheet piles.
  - 4. OSHA approved trench boxes.

#### 1.02 SUBMITTALS

- A. General: Submit each item in this Article in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Layout drawings for excavation support system and other data prepared by, or under the supervision of, a qualified professional engineer. System design and calculations must be acceptable to local authorities having jurisdiction.

### 1.03 QUALITY ASSURANCE

- A. Engineer Qualification: A professional engineer legally authorized to practice in jurisdiction where Project is located, and experienced in providing successful engineering services for excavation support systems similar in extent required for this Project.
- B. Supervision: Engage and assign supervision of excavation support system to a qualified professional engineer foundation consultant.
  - 1. Submit name of engaged consultant and qualifying technical experience.
- C. Regulations: Comply with codes and ordinances of governing authorities having jurisdiction.

### 1.04 JOB CONDITIONS

- A. Before starting work, verify governing dimensions and elevations.
  - 1. Verify condition of adjoining properties.
  - 2. Take photographs to record any existing settlement or cracking of structures, pavements, and other improvements.
  - 3. Prepare a list of such damages, verified by dated photographs, and signed by Contractor and others conducting investigation.
- B. Survey adjacent structures and improvements, employing qualified professional engineer, and establishing exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.
- C. During excavation, resurvey benchmarks weekly, maintaining accurate log of surveyed elevations for comparison with original elevations. Promptly notify Engineer if changes in elevations occur or if cracks, sags, or other damage is evident.

### 1.05 EXISTING UTILITIES AND STRUCTURES

- A. Protect existing active sewer, water, gas, electricity, and other utility services and adjacent structures.

- B. Notify municipal agencies and service utility companies having jurisdiction. Comply with requirements of governing authorities and agencies for protection, relocation, removal, and discontinuing of services.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

- A. General: Provide adequate shoring and bracing materials which will support loads imposed. Materials need not be new, but should be in serviceable condition.
- B. Structural Steel: ASTM A 36.
- C. Steel Sheet Piles: ASTM A 328.
- D. Timber Lagging: Any species, rough-cut, mixed hardwood, nominal 3 inches thick, unless otherwise indicated.

## PART 3 - EXECUTION

### 3.01 CONFORMANCE WITH OSHA

- A. Comply with all OSHA regulations.

### 3.02 SHORING

- A. Wherever shoring is required, locate the system to clear permanent construction and to permit forming and finishing of concrete surfaces.
- B. Provide shoring system adequately anchored and braced to resist earth and hydrostatic pressures.
- C. Shoring systems retaining earth on which the support or stability of existing structures is dependent must be left in place at completion of work.

### 3.03 BRACING

- A. Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move a brace, install new bracing prior to removal of original brace.
- B. Do not place bracing where it will be cast into or included in permanent concrete work, except as otherwise acceptable to Engineer.
- C. Install internal bracing, if required, to prevent spreading or distortion of braced frames.
- D. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.
- E. Remove sheeting, shoring, and bracing in stages to avoid disturbance to underlying soils and damage to structures, pavements, facilities, and utilities.
- F. Repair or replace, as acceptable to Engineer and Owner, adjacent work damaged or displaced through installation or removal of shoring and bracing work.

\*\*\*END OF SECTION\*\*\*

**SECTION 02200**

**EARTHWORK**

## SECTION 02200 - EARTHWORK

### PART 1 - GENERAL

#### 1.01 DESCRIPTION OF WORK

A. Earthwork includes the following:

1. Excavation of soils, rock, debris, fill, and miscellaneous as required.
2. Excavation and sawcutting of paved and concrete areas.
3. Dewatering, drainage, and moisture control in excavated areas as required.
4. Aggregates for fill, backfill, base, subbase, bedding, and miscellaneous as required.
5. Backfilling of trench and structural excavation.
6. Compaction of trench and structural excavation.
7. Grading of areas prior to surface restoration.
8. Disposal of excess material.
9. Test pits as required.
10. Filter fabric and jute mat where required.
11. Trench marking tape where required.
12. Flowable fill as required in areas where rapid backfilling is needed or where adjacent slabs or structures have been undermined by excavation.

1.02 RELATED SECTIONS

- A. Section 02110 - Site Clearing.
- B. Section 02160 - Excavation Support Systems.
- C. Section 02510 - Water Distribution Systems.
- D. Section 02700 - Sewerage.
- E. Section 02720 - Precast Concrete Sewerage/Drainage Structures.
- F. Section 02930 - Lawns and Grasses.
- G. Section 03300 – Cast-in-Place Concrete.

1.03 PAY LIMITS

- A. Excavation Measurement: Volume of excavation actually removed, measured in original position, but not to exceed the following unless specifically shown otherwise on Drawings.
  - 1. 24 inches outside of concrete forms other than at footings and at outside precast structures.
  - 2. 24 inches outside of precast manhole or catchbasin walls measured as square.
  - 3. 12 inches beneath bottom of concrete slabs on grade.
  - 4. Pipe pay limits as shown on Drawings.
  - 5. Other structures or items shall be 12” beyond the limits of the structure.
  - 6. As shown or stated on Drawings or Contract Documents.
- B. Unit prices for rock excavation include replacement with approved materials.

#### 1.04 DEFINITIONS

- A. Base Course: The layer placed above the subbase.
- B. Common Borrow: Soil material obtained off-site when sufficient approved soil material is not available from excavation.
- C. Excavation consists of the removal of material encountered to subgrade elevations and the reuse or disposal of materials removed.
- D. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below ground surface.
- E. Subbase Course: The layer placed between the subgrade and base course.
- F. Subgrade: The uppermost surface of an excavation or the top surface of a fill on backfill at elevations defined on the Drawings.
- G. Submerged excavation consists of all excavation below mean low water elevation of a tidal water body.
- H. Unauthorized excavation consists of removing materials beyond indicated subgrade elevations or dimensions or pay limits without direction by the Engineer. Unauthorized excavation, as well as remedial work directed by the Engineer, shall be at the Contractor's expense.
- I. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within building lines.

#### 1.05 SUBMITTALS

- A. Submit the following according to the Conditions of the Contract and Division 1 Specification Sections:
  - 1. Product data for the following:
    - a) Each type of warning tape.
    - b) Filter fabric.

2. Samples of the following when requested:
  - a) Samples sealed in air-tight containers of each proposed soil material required from on-site or borrow sources.
  - b) 12-by-12-inch sample of filter fabric.
3. Test Reports: Submit the following:
  - a) Grain size analysis of each soil material proposed for incorporation into work with one test provided for every 1000 CY of material placed or at other frequency determined by Engineer.
  - b) One optimum moisture-maximum density curve for each soil material incorporated into work or at other frequency as determined by Engineer.

#### 1.06 QUALITY ASSURANCE

- A. Codes and Standards: Perform earthwork complying with requirements of authorities having jurisdiction.
- B. Testing and Inspection Service: Owner will employ a qualified independent geotechnical engineering testing agency to verify that soils comply with specified requirements and to perform required field and laboratory testing.

#### 1.07 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt existing utilities serving facilities occupied by the Owner or others except when permitted in writing by the Engineer and then only after acceptable temporary utility services have been provided.
  1. Provide a minimum 72 hours notice to the Engineer and receive written notice to proceed before interrupting any utility.
- B. Demolish and abandon existing underground utilities indicated to be removed. Coordinate with utility companies to shutoff services if lines are active.
- C. Data on indicated subsurface conditions are not intended as representations or warranties of accuracy or continuity between soil borings. It is expressly understood that Owner will not be responsible for interpretations or conclusions

drawn therefrom by Contractor. Data is made available for convenience of Contractor who may make additional subsurface explorations at his/her own cost to obtain additional data on subsurface conditions.

- D. Test pits: Excavate test pits to gain additional information on project conditions where shown on the Drawings or as directed by Engineer. Comply with earthwork requirements of this Section.

## 1.08 PROTECTION

- A. Protection of surfaces: Do not operate equipment on surfaces beyond the work area as much as practicable. Surfaces which are outside the specified limits of Work which become damaged shall be repaired by the Contractor at no additional cost to the Owner.
- B. Maintain excavations with approved barricades, lights, and signs to protect life and property until excavation is filled and graded to a condition acceptable to the Engineer.
- C. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.
- D. Provide Preblast Survey as defined in Section 02170 prior to rock removal.

## PART 2 - PRODUCTS

### 2.01 SOIL MATERIALS

- A. Provide approved soil materials complying with this specification.
- B. Suitable materials: As indicated on Drawings or that meet these specifications.
- C. Unsuitable materials: Material containing excessive clay, vegetation, organic matter; debris; pavement over four inches in greatest dimension; stones or boulders over four inches in greatest dimension; frozen material and material which, in the opinion of the Engineer, will not provide a suitable foundation or subgrade, or does not meet these specifications.

D. On-Site Suitable Excess Excavated Material: Any suitable material from on-site excavation which, in the opinion of Engineer, is acceptable for roadway subgrade or embankment construction.

E. Inspection: The Engineer may inspect off-site sources of materials and order tests of these materials to verify compliance with these specifications.

F. Testing: All materials shall be tested for gradation analysis at the rate of one test per 1000 cubic yards or, in the opinion of the Engineer, if approved material appears to have significantly changed quality since last test.

2.02 Gravel/Select Backfill: Well graded granular material free of organic material. Sieve analysis by weight:

| <u>Sieve size</u> | <u>% Passing By Weight</u> |
|-------------------|----------------------------|
| 4"                | 100                        |
| 3"                | 90 - 100                   |
| 1/4"              | 25 - 90                    |
| No. 40            | 0 - 30                     |
| No. 200           | 0 - 5                      |

2.03 Sand: Well graded durable particles free from organic matter. Sieve analysis by weight:

| <u>Sieve Size</u> | <u>% Passing by Weight</u> |
|-------------------|----------------------------|
| 3/8"              | 100                        |
| No. 4             | 95 - 100                   |
| No. 16            | 50 - 85                    |
| No. 100           | 2 - 10                     |
| No. 200           | 0 - 5                      |

2.04 3/4" Crushed Stone: Durable, clean angular rock fragments obtained by breaking and crushing rock material. Sieve analysis by weight:

| <u>Sieve Size</u> | <u>% Passing by Weight</u> |
|-------------------|----------------------------|
| 1"                | 100                        |
| 3/4"              | 75 - 100                   |
| 1/2"              | 35 - 70                    |
| 3/8"              | 0 - 25                     |
| No. 200           | 0 - 2                      |

2.05 Flowable Fill:

- A. Type II Portland: Cement, 75 lbs per cubic yard.
- B. Sand: 2350 lbs per cubic yard.
- C. Air content: -25%.

2.06 Aggregate Base: Shall be screened or crushed gravel of hard durable particles free from organic material. Sieve analysis by weight:

| <u>Sieve Size</u> | <u>% Passing by Weight</u> |
|-------------------|----------------------------|
| 3"                | 100                        |
| 1/2"              | 35 - 75                    |
| 1/4"              | 25 - 60                    |
| No. 40            | 0 - 25                     |
| No. 200           | 0 - 5                      |

2.07 Aggregate Subbase: Shall be screened or crushed gravel of hard durable particles free from organic material. Sieve analysis by weight:

| <u>Sieve Size</u> | <u>% Passing by Weight</u> |
|-------------------|----------------------------|
| 6"                | 100                        |
| 3"                | 95 - 100                   |
| 1/4"              | 25 - 70                    |
| No. 40            | 0 - 30                     |
| No. 200           | 0 - 5                      |

2.08 ACCESSORIES

- A. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, minimum 3 inches wide and 5 mils thick minimum, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 2'-6" deep.
- B. Tape Colors: Provide tape colors to utilities as follows:
  - 1. Red: Electric.
  - 2. Yellow: Gas, oil, steam, and dangerous materials.

3. Orange: Telephone and other communications.
  4. Blue: Water systems.
  5. Green: Sewer systems.
- C. Filter Fabric for General Use: Manufacturer's standard nonwoven pervious geotextile fabric of polypropylene, nylon or polyester fibers, or a combination.
1. Provide filter fabrics that meets or exceeds the listed minimum physical properties determined according to ASTM D 4759 and the referenced standard test method in parenthesis:
    - a) Grab Tensile Strength (ASTM D 4632): 120 lb.
    - b) Apparent Opening Size (ASTM D 4751): #70 U.S. Standard sieve.
    - c) Permittivity (ASTM D 4491): 1.7 per second.
    - d) Flow rate (ASTM D 4491): 135 gallons per minute per square foot.
  2. Fabric shall be equal to MIRAFI 140N manufactured by T.C. MIRAFI.
- D. Filter Fabric for Roadways: Manufacturer's standard woven pervious geotextile fabric of polypropylene, nylon or polyester fibers, or a combination.
1. Provide filter fabrics that meets or exceeds the listed minimum physical properties determined according to ASTM D 4759 and the referenced standard test method in parenthesis:
    - a) Grab Tensile Strength (ASTM D 4632): 315 lb.
    - b) Apparent Opening Size (ASTM D 4751): #40 U.S. Standard sieve.
    - c) Permittivity (ASTM D 4491): 0.05 per second.
    - d) Flow rate (ASTM D 4491): 4 gallons per minute per square foot.
  2. Fabric shall be equal to MIRAFI 600X manufactured by T.C. MIRAFI

- E. Filter Fabric for MDOT Trench: Manufacturer's standard nonwoven pervious geotextile fabric of polypropylene fibers.
  - 1. Provide filter fabric that meets or exceeds the listed minimum physical properties determined according to ASTM D 4759 and the referenced standard test method in parenthesis:
    - a) Grab Tensile Strength (ASTM D 4632): 160 lb.
    - b) Apparent Opening Size (ASTM D 4751): #70 U.S. Standard sieve.
    - c) Permittivity (ASTM D 4491): 1.5 per second.
    - d) Flow rate (ASTM 4491): 110 gallons per minute per square foot.
  - 2. Fabric shall be equal to MIRAFI 160N.

### PART 3 - EXECUTION

#### 3.01 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, tanks, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.
- C. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- D. Provide tree protection as required.
- E. Obtain copies of all applicable permits governing excavation.

#### 3.02 EXCAVATION CLASSIFICATIONS

- A. Excavation is classified as follows and includes excavation to required subgrade elevations. Excavation will be classified as earth excavation or rock excavation

on land and as submerged excavation or submerged rock excavation below mean low water of tidal areas as follows:

1. Earth excavation includes roadway excavation of pavements, bases, subbases and subgrades, and other obstructions visible on surface; underground structures, utilities, and other items indicated to be demolished and removed; together with soil and other materials encountered that are not classified as rock or unauthorized excavation.
  - a) Intermittent drilling, blasting, or ripping to increase production and not necessary to permit excavation of material encountered will be classified as earth excavation.
2. Rock excavation includes removal and disposal of rock material and obstructions encountered that cannot be removed by the following heavy-duty rock excavating equipment without systematic drilling, blasting, or ripping.
  - a) Rock material includes boulders 2.0 cubic yards or more in volume and rock in beds, ledges, unstratified masses, and conglomerate deposits.
  - b) Rock excavation will be paid by unit prices included in the Contract Documents.
  - c) Do not excavate rock until it has been classified and cross-sectioned by Engineer.
3. Submerged excavation includes excavation below mean low water of a water body of sediment, boulders, debris, and other obstructions visible on surface; together with soil and other materials encountered that are not classified as submerged rock or unauthorized excavation.
  - a) Intermittent drilling, blasting, or ripping to increase production and not necessary to permit excavation of material encountered will be classified as earth excavation.
4. Submerged rock excavation includes removal and disposal of submerged rock material below mean low water of a water body and obstructions encountered that cannot be removed by the following heavy-duty rock excavating equipment without systematic drilling, blasting, or ripping.

- a) Submerged rock material includes boulders 2.0 cubic yards or more in volume and rock in beds, ledges, unstratified masses, and conglomerate deposits.
- b) Submerged rock excavation will be paid by unit prices included in the Contract Documents.
- c) Do not excavate submerged rock until it has been classified and estimated by Engineer.

### 3.03 STABILITY OF EXCAVATIONS

- A. Comply with local codes, ordinances, and requirements of authorities having jurisdiction to maintain stable excavations.

### 3.04 EXCAVATION FOR UTILITY TRENCHES ON LAND

- A. Excavate trenches to indicated slopes, lines, depths, and invert elevations.
- B. Excavate uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.
  - 1. Clearance: 12 inches each side of pipe or conduit or as indicated on Drawings.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit or appropriate space for bedding where bedding is required as indicated on Drawings.
- D. Remove all sharp items and objects from trench.
- E. Where encountering rock or another unyielding bearing surface, carry trench excavation 6 inches below invert elevation to receive bedding course.
- F. Maximum excavated length of utility trench that may be left open and not backfilled to grade shall at end of day be 200 LF.

3.05 EXCAVATION OF PAVED AREAS

- A. Sawcut pavement prior to excavation and again prior to paving to provide a clean, uniform edge.
- B. Minimize disturbance of remaining pavement.
- C. Cut and remove the minimum amount of pavement required to do the Work.
- D. Use shoring and bracing where sides of excavation will not stand without undermining pavement.

3.06 ROCK EXCAVATION shall be performed in accordance with Section 02170, "Use of Explosives."

3.07 EXCESS EXCAVATION WASTE AREAS

- A. If material is suitable as approved by Engineer, use excess excavated material for subgrade or embankment construction. Comply with all compaction requirements defined herein.
- B. If material is deemed unsuitable for reuse by Engineer, or if excess suitable material exists, it shall be the responsibility of the Contractor to obtain necessary permits and approvals from all pertinent State and Federal agencies and from the local municipality prior to the establishment of waste areas off the project.
  - 1. Written permission of the property owners shall be obtained by the Contractor, including permission to dispose of waste in the area.
  - 2. Copies of all required permits shall be given to the Engineer.
  - 3. Provisions shall be made for temporary and permanent erosion controls at waste areas which shall include, but not necessarily be limited to, grading the surface to drain, covering the surface with loam or other earthy material that will support growth and seeding and mulching.
- C. No additional payment shall be made for disposal of either excess suitable fill or excess unsuitable fill on waste areas beyond payment made under roadway excavation pay item. No additional payment beyond excavation pay item shall be made for suitable material used as roadway subgrade.

### 3.08 TEST PITS

- A. Excavate test pits in locations as directed by Engineer.
- B. Utilize smallest equipment required for excavation and appropriately tracked or wheeled equipment to minimize damage to ground surfaces and vegetation in areas not otherwise to be disturbed by Contractor's activities.
- C. To the extent possible, restore surface conditions to existing prior to excavation.

### 3.09 APPROVAL OF SUBGRADE

- A. Notify Engineer when excavations have reached required subgrade. Allow time for verification of subgrade elevations prior to proceeding with placement of subbase material.
- B. When Engineer determines that unforeseen unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Unforeseen additional excavation and replacement material will be paid according to the Contract provisions for changes in Work.
- D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by the Engineer.

### 3.10 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending indicated bottom elevation of concrete foundation or footing to excavation bottom, without altering required top elevation. Flowable concrete fill may be used to bring elevations to proper position when acceptable to the Engineer.
- B. Fill unauthorized excavations under other construction as directed by Engineer.
- C. Where indicated widths of utility trenches are exceeded, provide stronger pipe, or special installation procedures, as required by the Engineer.

### 3.11 STORAGE OF SOIL MATERIALS

- A. Stockpile excavated materials acceptable for backfill and fill soil materials, including acceptable borrow materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent wind-blown dust.
- B. Stockpile soil materials away from edge of excavation. Do not store within drip line of remaining trees.
- C. Stockpiling excavated soils along roadway is prohibited.

### 3.12 DEWATERING

- A. Prevent surface water and subsurface or groundwater from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.
- C. Do not allow water to accumulate in excavations. Provide and maintain pumps, dewatering system components necessary to convey water away from excavations.
- D. Convey water removed from excavations and rain water to collection or run-off areas. Establish and maintain temporary drainage ditches and other diversions outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.

### 3.13 BACKFILL AND FILL

- A. Place acceptable soil material in layers to required elevations as shown on the Drawings and as listed below.
- B. Fill, backfill, and compact to produce minimum subsequent settlement of the material and provide adequate support for the surface treatment or structure to be placed on the material.
- C. Place material in approximately horizontal layers of beginning at lowest area to be filled. Do not impair drainage.

- D. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Scarify surfaces so that fill material will bond with existing surface.
- E. When existing ground surface has a density less than that specified under "Compaction" for particular area classification, break up ground surface, pulverize, moisture-condition to optimum moisture content, and compact to required depth and percentage of maximum density.
- F. Place backfill and fill materials in layers not more than 12" in loose depth for material compacted by heavy compaction equipment, and not more than 6" in loose depth for material compacted by hand-operated tampers. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
- G. Place backfill and fill materials evenly adjacent to structures, to required elevations. Prevent wedging action of backfill against structures by carrying material uniformly around structure to approximately same elevation in each lift. No backfill shall be placed around new concrete structures until concrete has reached 75% of its design strength.
- H. Do not allow heavy machinery within five feet of structures during backfilling and compaction.
- I. Backfill excavations as promptly as Work permits, but not until completion of the following:
  - 1. Acceptance of construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.
  - 2. Surveying locations of underground utilities for record documents.
  - 3. Testing, inspecting, and approval of underground utilities.
  - 4. Concrete formwork removal.
  - 5. Removal of trash and debris from excavation.
  - 6. Removal of temporary shoring and bracing, and sheeting.

- J. Use care in backfilling to avoid damage or displacement of underground structures and pipe.
- K. Backfill under all existing utility pipes crossed by sewer construction with 3/4" crushed stone or flowable fill. The crushed stone backfill will extend continuously from the bedding of the new sewer to the utility pipe crossed, including a 6" thick envelope of crushed stone all around the existing utility pipes. The 3/4" crushed stone backfill shall stand at its own angle of repose. No "haunching" or "forming" with common fill will be allowed.

### 3.14 UTILITY TRENCH BACKFILL

- A. Place and compact bedding course on rock and other unyielding bearing surfaces and to fill unauthorized excavations. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- B. Bed pipe in crushed stone to limits of bedding and requirements for remaining trench backfill.
- C. Trenches in cross-country runs: Restore surface to the existing prior to construction. Mound trench 6 inches above existing grade if required by the Engineer.
- D. Concrete backfill trenches that carry below or pass under footings and that are excavated within 18 inches of footings. Place concrete to level of bottom of footings.
- E. Provide 4 inch thick concrete base slab support for piping or conduit less than 2'-6" below surface of roadways. After installation and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase.
- F. Place and compact initial backfill of satisfactory soil material or subbase material, free of particles larger than 1 inch, to a height of 12 inches over the utility pipe or conduit.
- G. Carefully compact material under pipe haunches and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system.

- H. Coordinate backfilling with utilities testing.
- I. Fill voids with approved backfill materials as shoring and bracing, and sheeting is removed.
- J. Place and compact final backfill of satisfactory soil material to final subgrade.
- K. Install warning tape directly above utilities as indicated on Drawings.

### 3.15 MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within two percent of optimum moisture content.
- B. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
- C. Remove and replace, or scarify and air-dry satisfactory soil material that is too wet to compact to specified density.
- D. Stockpile or spread and dry removed wet satisfactory soil material.

### 3.16 COMPACTION

- A. Place backfill and fill materials in layers not more than 12 inches in loose depth for material compacted by heavy compaction equipment, and not more than 6 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill materials evenly on all sides of structures to required elevations. Place backfill and fill uniformly along the full length of each structure.
- C. Compact to the following minimum densities:

| <u>FILL AND BACKFILL LOCATION</u> | <u>DENSITY</u> |
|-----------------------------------|----------------|
| Top 2 feet under gravel roadway   | 95%            |
| Top 2 feet under pavement         | 95%            |
| Below top 2 feet under pavement   | 92%            |

|                                     |     |
|-------------------------------------|-----|
| Trenches through unpaved areas      | 90% |
| Pipe Bedding                        | 92% |
| Around street manholes, catchbasins |     |

- D. Determine actual in place densities using field tests as directed by the Engineer. Tests will be made by an independent laboratory. Costs for initial tests will be paid by Owner or by testing allowance bid item. Subsequent retests will be paid by Contractor.
- E. When field in-place density tests are performed using nuclear methods, make calibration checks of both density and moisture gages at beginning of work, on each different type of material encountered, and at intervals as directed by the Engineer.
- F. At footing subgrades, perform at least one test of each soil stratum to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of each subgrade with related tested strata when acceptable to the Engineer.
- G. At gravel roads, and paved area subgrades and at each compacted fill and backfill layer, perform at least one field in-place density test for every 2,000 square feet or less of paved area, but in no case fewer than three tests.
- H. In each compacted initial and final trench backfill layer, perform at least one field in-place density test for each 200 feet or less of trench, and at every 2' vertical layer, but no fewer than two tests.
- I. When testing agency reports that subgrades, fills, or backfills are below specified density, scarify and moisten or aerate, or remove and replace soil to the depth required, recompact, and retest until required density is obtained.

### 3.17 GRADING

- A. Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
- B. Provide a smooth transition between existing adjacent grades and new grades.
- C. Cut out soft spots, fill low spots, and trim high spots to conform to required surface tolerances.

- D. Slope grades to direct water away from buildings and to prevent ponding.
- E. Finish subgrades to required elevations within the following tolerances:
  - 1. Lawn or Unpaved Areas: Plus or minus 0.10 foot.
  - 2. Walks: Plus or minus 0.10 foot.
  - 3. Pavements: Plus or minus 1/2 inch when tested with 10 foot straightedge.
- F. After grading, compact subgrade surfaces to the percentage of maximum density for each area classification.
- G. Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
- H. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.
- I. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

### 3.18 SUBBASE AND BASE COURSES

- A. Under pavements and walks, place subbase course material on prepared subgrades. Place base course material over subbases to pavements.
- B. Compact subbase and base courses at optimum moisture content to required grades, lines, cross sections and thickness to not less than 95 percent of ASTM D 1557 modified.
- C. Shape subbase and base to required crown elevations and cross-slope grades.
- D. When thickness of compacted subbase or base course is 6 inches or less, place materials in a single layer.

- E. When thickness of compacted subbase or base course exceeds 12 inches, place materials in equal layers, with no layer more than 12 inches thick or less than 6 inches thick when compacted.
- F. Place shoulders along edges of subbase and base course to prevent lateral movement. Construct shoulders at least 12 inches wide of acceptable soil materials and compact simultaneously with each subbase and base layer.

### 3.19 FINAL DISPOSAL OF EXCESS MATERIALS

- A. Remove excess excavated material not wanted by the Owner and dispose of it off Owner's property.
- B. Grade material to the satisfaction of the Owner of the property on which the material is deposited. Keep roads free of debris. Use suitable watertight vehicles for hauling wet materials over roads and streets.
- C. Clean up materials dropped from or spread by vehicles promptly or when directed by the Engineer.
- D. Dispose of materials in accordance with all applicable regulations.

\*\*\*END OF SECTION\*\*\*

02200-20

OA2075

**SECTION 02510**

**WATER DISTRIBUTION SYSTEMS**

## SECTION 02510 - WATER DISTRIBUTION SYSTEMS

### PART 1 - GENERAL

#### 1.01 DESCRIPTION OF WORK

A. General: This section includes:

1. Water main relocation or special crossings where encountered.
2. Materials required for repair of water services which are damaged in course of work.
3. Ductile iron water main.
4. Water line fittings and adapters.

#### 1.02 RELATED SECTIONS

- A. Section 02200 - Earthwork.

#### 1.03 PERFORMANCE REQUIREMENTS

- A. Water Main Pressure Ratings: Not less than 1.5 times the sustained working pressure of the lowest elevation of the test section.

#### 1.04 SUBMITTALS

- A. Product data for pipe, fittings, valves, and hydrant.
- B. Conformance with AWWA and NSF 61/ANSI Drinking Water Standards for all products submitted.
- C. Record drawings at project closeout of installed water service piping and products in accordance with requirements of Division 1, Section 'Project Closeout'.

#### 1.05 QUALITY ASSURANCE

- A. For water line work, comply with all requirements of the water utility owner. All materials and workmanship are subject to approval by the water utility.
- B. Perform all water line relocation work in accordance with Department of Health and Human Services standards, where more stringent than local requirements.
- C. All work including temporary water service shall comply with American Water Works Association and NSF/ANSI Standards for Drinking Water.

#### 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Use the following precautions for pipes during storage:
  - 1. All materials shall be kept safe from damage. Materials shall be kept free from dirt and foreign materials at all times.
  - 2. Store gaskets in cool location out of direct sunlight. Gaskets should not come in contact with petroleum products.
  - 3. Protect from moisture and dirt.

#### 1.07 SEQUENCING AND SCHEDULING

- A. Coordinate relocation of water main with Water Department.

### PART 2 - PRODUCTS

#### 2.01 BURIED PIPES AND TUBES

- A. All piping, fittings, valves, coating, gaskets and appurtenances that will come into contact with potable water shall have ANSI/NSF Standard 61 Certification.
- B. General: Provide fittings and other required piping accessories of same type and class of material as conduit, or of material having equal or superior physical and chemical properties.

C. Ductile-Iron Pipe: AWWA C151, thickness Class 52.

1. Lining: AWWA C104, cement mortar, seal coated.
2. Gaskets, Glands, and Bolts and Nuts: AWWA C111.
3. Mechanical-Joint-Type or Push-On Type Pipe: AWWA C111, rubber gaskets, ductile iron glands, and stainless steel bolts and nuts.
4. Exterior Coating: Bituminous.

## 2.02 PIPE AND TUBE FITTINGS

- A. Ductile Iron Pipe Fittings: AWWA C110 ( full body) or C153 ( compact), ductile iron, 250 psig (1725 kPa) minimum pressure rating.
- B. Copper Fittings: ANSI/AWWA C800; wrought-copper, compression pressure type.

## 2.03 JOINING MATERIALS

- A. Ductile Iron Pipe and Ductile Iron or Cast Iron Fittings: The following materials apply:
  1. Mechanical Joints: AWWA C111 ductile iron or gray iron glands, high strength steel bolts and nuts, and rubber gaskets.
- B. Gaskets: Rubber.
- C. Bolts and Nuts: AWWA C111.
- D. Equal to: Megalug.
- E. Products with set screw grips not allowed.

## 2.04 ANCHORAGES

- A. Clamps, Straps, and Washers: ASTM A 506, steel.
- B. Rods: ASTM A 575, steel.

- C. Rod Couplings: ASTM A 197, malleable iron.
- D. Bolts: ASTM A 307 steel.
- E. Cast Iron Washers: ASTM A 126, gray iron.
- F. Pipe Lubricant: Suitable for use in potable water supply.

### PART 3 - EXECUTION

#### 3.01 PIPE

- A. Grade trench bottom to provide a smooth, firm, stable, and rock-free foundation for all buried pipes.
- B. Remove unstable, soft, and unsuitable materials at trench bottom upon which pipes are to be laid and filled with compacted select backfill.
- C. Bedding for ductile iron pipe shall be gravel or native material as approved by engineer from 6 inches below to 6 inches above pipe.
- D. Ductile-Iron Pipe: Install with cement mortar lined mechanical joint and retainer glands or push on joint fittings and rubber gaskets in accordance with AWWA C600.
- E. Clean interior of pipe thoroughly prior to installation. Utilize plugs to minimize entry of foreign materials into pipe.
- F. Torque wrenches required to tighten all mechanical joint fittings with applied torque conforming to pipe and fitting manufacturer's requirements.
- G. Piping shall be carefully lowered into the excavation. Suitable excavated material shall be placed to maintain equal depth on both sides of the pipe and to prevent movement of the pipe from its proper alignment.
- H. All damage resulting from inadequate bracing or shoring will be the responsibility of the Contractor, who shall make all necessary repairs at his/her own expense.

- I. The Contractor shall use extra caution to avoid disturbing any water service connections. Any disruption of water service shall be immediately reported to the Water Company and the property Owner.
- J. Property owners whose driveways will be blocked shall be notified 24 hours in advance of the excavation. Driveways shall not be blocked at night without the expressed consent of the property owner.
- K. Pipe shall be laid directly on the trench bottom. Prior to lowering pipe into trench, the trench bottom shall be made flat and cut true and even to grade so as to provide continuous contact of the trench bottom with the pipe.
- L. No pipe shall be laid, in wet trench conditions, on frozen trench bottom, or when Engineer determines weather conditions are unsuitable for proper installation.
- M. Coordinate connection to existing main with Water Department.

### 3.02 PLACEMENT OF WATER LINE THRUST BLOCKS

- A. Concrete shall be poured in place or precast:
  - 1. Poured in place thrust blocks shall be constructed by pouring concrete between the fitting and the undisturbed wall of the trench. Care shall be exercised to ensure that the concrete is placed clear of joint accessories, bolts, nuts, and flanges.

### 3.03 FLUSHING AND DISINFECTION

- A. General: At completion of water distribution line installation but prior to connection to existing water supply, flush and disinfect by swabbing in conformance with AWWA C651-05, the Maine Department of Health and Human Services, and Water Department requirements.
- B. Initial flushing shall be conducted to remove dirt, sediment and debris from the line. Ductile iron pipe shall be flushed at a rate of 2.5 FPS and PVC pipe shall be flushed at a rate of 3.0 FPS in accordance with AWWA C605-94.

\*\*\*END OF SECTION\*\*\*

**SECTION 02700**

**SEWERAGE**

## SECTION 02700 - SEWERAGE

### PART 1 - GENERAL

#### 1.01 DESCRIPTION OF WORK

- A. Provide exterior sanitary and storm sewer systems as shown on the Drawings.  
This section includes:

Fernco couplings  
Abandoning sewerage systems  
Sewer line cleanouts  
Fittings and couplings between pipe types  
Inserta tee cored connection fittings  
Maximum allowable open trench limitations

#### 1.02 RELATED SECTIONS

- A. Section 02160 - Excavation Support Systems.  
B. Section 02200 - Earthwork (includes excavation, bedding, backfill, compaction).  
C. Section 03300 - Cast-in-Place Concrete.  
D. Section 07200 – Insulation.

#### 1.03 DEFINITIONS

- A. Combined Sewerage and Drainage Piping: System of sewer pipes, fittings, and appurtenances for gravity flow of sanitary sewage and storm drainage.  
B. Drainage Piping: System of drain pipe, fittings, and appurtenances for gravity flow of storm drainage.  
C. Force Main Piping: System of pipe, fittings, and appurtenances for pumped flow of sanitary sewage or storm drainage.  
D. Sewerage Piping: System of sewer pipe, fittings, and appurtenances for gravity flow of sanitary sewage.

#### 1.04 PERFORMANCE REQUIREMENTS

- A. Gravity Flow, Non-pressure Piping Pressure Ratings: At least equal to system test pressure.
- B. Gravity Flow, Non-pressure Piping Pressure Rates for Burial Over 20': At least equal to system operating pressure, but not less than 200 psig.
- C. Force Main Pressure Ratings: At least equal to 1.5 times system operating pressure, but not less than 200 psig.

#### 1.05 SUBMITTALS

- A. Submit each item in this Article according to the Conditions of the Contract and Division 1 Specifications Sections:
  - 1. Manufacturer's product data and installation instructions.
  - 2. Certified copies of tests on pipe units.
  - 3. Shop Drawings or Catalog Cuts of adapters for joining pipes of different materials.
  - 4. Construction Records: Record depth and location of the following:
    - a) House service connection points, bends in house service connection points to sewer main;
    - b) Bends
    - c) Repairs to existing pipes
    - d) Thrust blocks
    - e) All utilities encountered during excavation
  - 5. Record neatly in a permanently bound notebook and submit at substantial completion. Provide access to records for Engineer at all times. Submit copies to Engineer on a weekly basis.

#### 1.06 QUALITY ASSURANCE

- A. Environmental Agency Compliance: Comply with regulations pertaining to sanitary sewerage and storm drainage systems as promulgated by Maine DEP and U.S. EPA.

- B. Utility Compliance: Comply with regulations pertaining to sanitary sewerage and storm drainage systems. Include standards of water and other utilities where appropriate and Maine DOT utility location and road opening permits.
- C. Product Options: Drawings indicate sizes, profiles, connections, and dimensional requirements of system components and are based on specific manufacturer types indicated.

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Do not store plastic structures in direct sunlight.
- B. Do not store plastic pipe or fittings in direct sunlight.
- C. Protect pipe, pipe fittings, and seals from dirt and damage.

#### 1.08 PROJECT CONDITIONS

- A. Site Information: Perform site survey, research public utility records, and verify existing utility locations prior to excavation.
- B. Locate existing structures and piping to be closed and abandoned or to remain.
- C. Existing Utilities: Do not interrupt existing utilities serving facilities occupied by the Owner or others except when permitted under the following conditions and then only after arranging to provide acceptable temporary utility services.
  - 1. Notify Engineer not less than 72 hours in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without receiving Engineer's written permission.

#### 1.09 SEQUENCING AND SCHEDULING

- A. Coordinate sanitary sewerage system connections to Town's sanitary sewer.
- B. Coordinate with other utility work.

- C. Maximum allowable open trench that is not backfilled to grade at any one time shall be 200 LF.

## PART 2 - PRODUCTS

### 2.01 PIPE AND FITTINGS

#### A. Plastic Polyvinyl Chloride (PVC) Gravity Sewer:

1. ASTM D3034 strength requirement SDR 35 with push on gasketed joints meeting ASTM D3212.
2. Gaskets elastomeric seal meeting ASTM F477.
3. Fittings of identical joint and gasket design.

### 2.02 BURIED PIPE JOINTS

- #### A. Gravity and non-pressure ductile iron pipe - mechanical joint, locking ring, or push on pipes.

### 2.03 PIPE COUPLINGS

- A. Non-pressure PVC or ductile iron sewers shall be Fernco Strong Back RC 1000 Series (Series 6000 for AIS Compliance) coupling for appropriate pipe or equal.
- B. Water main crossings shall utilize full section of ductile iron pipe coupled at each end to PVC pipe using solid sleeve ductile iron mechanical joint fittings consisting of:
  1. Class 350 ductile iron meeting ANSI/AWWA A21.53/C-153.
  2. Joints shall meet ANSI/AWWA A21.11/C-111.
  3. Cement linings shall meet ANSI/AWWA A21.4/C-104.
  4. Mechanical joint nuts and bolts shall be Corten or ductile iron, high strength, low alloy steel meeting ANSI/AWWA A21.11/C-111.

- 5. Mechanical joint gaskets shall meet AWWA C-111 and ANSI A21.11 for SBR rubber gaskets and shall be compatible with two types of pipe ends being joined.
- C. Push-On: ANSI/AWWA C110 and ANSI/AWWA C111, Pacific States Cast Iron Pipe Company or U.S. Pipe and Foundry Tyton joint, or equal.
- D. Restrained joint fittings shall be similar to mechanical joint fittings except the joint shall provide mechanical restraint using an internally cast ring around the smooth plain end of the pipe which locks to the shoulder extension on the ball end of the pipe. Friction type joints will not be allowed.
- E. Cored connection shall be PVC Inserta Tee or equal, consisting of PVC hub, stainless steel band and rubber sleeve. These shall only be allowed in special circumstances as determined by Engineer.
- F. Cored connection for HDPE shall be Qwik Seal Fernco or equal fitting for SDR 35 PVC pipe consisting of gasket hub and stainless steel band.

#### 2.04 MARKING TAPE

- A. Metal detector compatible for future location.
- B. Width of three inches minimum.
- C. Green color required.
- D. Equal to Liveguard III by Tri-Sales Inc.

#### 2.05 CLEANOUTS

- A. Cover: Neenah # R-1978-A2 Frame 15" tall frame and 7 5/8" x 7 5/8" cover, or equal.
- B. Pipe: SDR 21 PVC or cast iron.

#### 2.06 PLASTIC POLYVINYL CHLORIDE (PVC) PIPE LOCKING CLEANOUTS

- A. Pipe: SDR 21 PVC, Class 200 pressure pipe, ASTM D2241.
- B. Fittings: tube pressure rated equal stop pipe.

- C. Locking cleanout cover: Ductile iron mechanical joint cap with grip rings and mechanical joints gland to connect to PVC pipe.

## PART 3 - EXECUTION

### 3.01 INSTALLATION OF GRAVITY SEWERS AND FITTINGS

- A. General Locations and Arrangements: Drawings (plans and details) indicate the general location and arrangement of underground sewerage and drainage systems piping. Location and arrangement of piping layout take into account many design considerations. Install piping as indicated, to extent practical.
- B. Install piping beginning at low point of systems, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's recommendations for use of lubricants, cements, and other installation requirements. Maintain swab or drag in line and pull past each joint as it is completed.
- C. Laser beam required for establishing pipe invert grades in field.
- D. Bedding for each pipe length shall be completed before next pipe length installed.
- E. Lay pipe to line and grade shown on the Drawings. If grade is not shown, determine elevations of start and finish points for each run of pipe. Lay pipe to a uniform grade between these points.
- F. Use manholes for changes in direction, except where fittings or cleanouts are indicated. Use fittings for branch connections, except where direct tap into existing sewer is indicated.
- G. Use proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reduction of the size of piping in the direction of flow is prohibited.
- H. Extend sewerage piping and connect to building's sanitary drain, of sizes and in locations indicated. Terminate piping as indicated.
- I. Lay pipe in the dry. Do not use installed pipe to remove water from Work area.

- J. Flush all pipe and remove debris. Flushing method must be approved by Engineer. Gravity flushing is not acceptable.
- K. Size of house service leads: 4" or 6" unless otherwise indicated. Depth and location of service to be determined by Engineer in field.

### 3.02 WATER MAIN CROSSINGS

- A. Preferred vertical separation distances between water mains and sewer lines at the crossings of these two utilities is 18" between the bottom of the water main and the top of the sewer line with the water main being located over the sewer main.
- B. Where the plans show preferred vertical separation distances not being attained, the following measures will be taken:
  - 1. Sewer line material shall be changed from PVC to ductile iron over a distance 10 LF from each side of the water main centerline.
  - 2. Ductile iron sewer pipe lengths shall be twenty-feet or the longest length practical under specific field conditions.
  - 3. Solid sleeves rubber gasketed mechanical joint sleeves shall be used to transition the PVC to ductile iron pipe materials.
  - 4. Sewer joints shall be the maximum possible distance away from the centerline of the water main.

### 3.03 CORED INSERTA TEE CONNECTORS

- A. Core the proper size hole. Use a hole saw for PVC, Ribbed and Polyethylene Pipe. Use a diamond core bit for Concrete, Clay, DI and Fiberglass pipe.
- B. Insert the rubber sleeve into the cored hole with the gold vertical line on the rubber sleeve facing the side of the mainline. The upper segment should be on top of the wall or rib and the lower segment (PVC, Ribbed & Polyethylene pipe only) should be on the inside of the pipe.
- C. Apply the Inserta Tee solution supplied to the inside of the rubber sleeve and to the outside of the PVC hub adaptor. DO NOT use an oil based lubricant.

- D. Place the PVC hub adaptor into the rubber sleeve. Ensure that the red vertical line on the PVC hub adaptor is in line with the gold vertical line on the rubber sleeve.
- E. Place a 2" x 4" board onto the top of the PVC hub adaptor (used with hammer to drive the hub adaptor into sleeve).
- F. The red horizontal line at the top of the hub adaptor is a depth mark. This tells the installer how far to drive the adaptor into the rubber sleeve. Drive the PVC hub adaptor into the rubber sleeve to where the horizontal red line on the PVC hub adaptor meets the top of the rubber sleeve.
- G. Place the stainless band around the top of the rubber sleeve and tighten down.
- H. Install side-service pipe in normal manner.
- I. It is the intent of these specifications to allow use of this type of connection only where approved by Engineer due to unique circumstances. Most, if not all, service connections will be made with tees or wyes.

#### 3.04 QWIK SEAL FERNCO FITTING INSTALLATION

- A. Core the proper size hole. Use a hole saw for HDPE pipe.
- B. Clean and remove any burs from the opening using sandpaper or a file.
- C. Remove the band clamp from the fitting, fold, insert into opening, and unfold.
- D. Pull up on the fitting until it stops against the inside of the pipe.
- E. Measure the depth of the fitting from the pipe stop to the top edge.
- F. Determine the dimension of the pipe stub to be inserted into the fitting for either connection of a fitting or plain end pipe.
- G. Bevel the leading edge of the pipe stub.
- H. Lubricate the fitting and pipe stub.

- I. Start the pipe stub into the fitting by hand and finish using a block of wood and hammer to drive the pipe stub to the pipe stop.
- J. Install the band clamp at manufacturer's recommended torque.

### 3.05 CLEANOUT INSTALLATION

- A. Install cleanouts and riser extension from sewer pipe to cleanout at grade. Use cast-iron soil pipe or SDR 21 PVC fittings in sewer pipes at branches for cleanouts and cast-iron soil pipe or SDR 21 PVC for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.
- B. Set cleanout frames and covers in earth in a cast-in-place concrete block, 18 by 18 by 12 inches deep. Set with tops 1 inch below surrounding earth grade.
- C. Set cleanout frames and covers in paving with tops flush with surface of paving.
- D. Set cleanout frames and covers in gravel or lawns 12" below grade and provide sealed cap.

### 3.06 ABANDONING SEWERAGE PIPES

- A. Close open ends of abandoned underground piping that is indicated to remain in place. Include closures strong enough to withstand hydrostatic and earth pressures that may result after ends of abandoned piping have been closed. Use either of the following procedures:
  - 1. Close open ends of piping with at least 8 inch thick brick masonry bulkheads.
  - 2. Close open ends of piping with threaded metal caps, plastic plugs, or other acceptable methods suitable for size and type of material being closed. Do not use wood plugs.
  - 3. Close open ends of pipe by encasing in concrete mass that extends at least 18" outside of pipe end in all directions.

### 3.07 EXISTING UTILITIES

- A. If, either for the convenience of the contractor, or accidentally, existing utilities or structures of any kind are disrupted, damaged, or proposed temporarily

disconnected, contractor shall repair, reconnect, or reinstall the utility to the complete satisfaction of the Utility Owner, Engineer, and Owner. This may require replacement of existing facilities with new materials.

### 3.08 FIELD QUALITY CONTROL

- A. Clear interior of piping and structures of dirt and superfluous material as the work progresses. Maintain swab or drag in piping and pull past each joint as it is completed.
  - 1. In large, accessible piping, brushes and brooms may be used for cleaning.
  - 2. Place plug in end of incomplete piping at end of day and whenever work stops.
  - 3. Flush piping between manholes and other structures, if required by authorities having jurisdiction, to remove collected debris.
- B. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of the Project.
  - 1. Submit separate reports for each system inspection.
  - 2. Defects requiring correction include the following:
    - a) Alignment: Less than full diameter of inside of pipe is visible between structures.

### 3.09 MAXIMUM OPEN TRENCH LIMITATION

- A. Maximum excavated length of utility trench that may be left open and not backfilled to grade at any given time shall be 200 LF.

\*\*\*END OF SECTION\*\*\*

**SECTION 02717**

**MANHOLE RIM ADJUSTMENT**

## SECTION 02717 – MANHOLE RIM ADJUSTMENT

### PART 1 – GENERAL

#### 1.01 SUMMARY OF WORK

- A. This specification defines the Work required to adjust existing manhole rims to-grade including, but not limited to:
  - 1. Removal and replacement of adjacent pavement and concrete surfaces.
  - 2. Removal and adjustment to new grades of manhole rims indicated by drawings or by Engineer as requiring adjustment.
  - 3. Earthwork as required to locate existing manhole covers and to repair excavated areas adjacent to manhole.

#### 1.02 SUBMITTALS

- A. Submit shop drawings for precast structures. Show components to be used.
- B. Provide manufacturers' product data and installation instructions for precast item. The intent is to reuse the existing covers.
- C. Field confirm finished grade elevation prior to work.

#### 1.03 QUALITY ASSURANCE

- A. Provide precast risers capable of supporting AASHTO H-20 loading.
- B. All precast concrete shall comply with ASTM C913 "Standard Specification for Precast Concrete Water and Wastewater Structures".

### PART 2 – PRODUCTS

#### 2.01 MANHOLE FRAMES AND COVERS

- A. Reuse existing manhole frames and covers.

#### 2.02 RISER RINGS TO GRADE

- A. Provide reinforced riser rings to grade.

- B. Use number of rings required to achieve grade elevation.
- C. Seal all joints with bitumastic sealant.
- D. Ring inside diameter shall be largest compatible with existing structure.

### PART 3 – EXECUTION

#### 3.01 PREPARATION

- A. Field locate existing manhole covers using metal detectors and test pits where buried.
- B. Clearly mark all manhole locations to be adjusted using fluorescent marking paint.

#### 3.02 SITE CLEARING

- A. Remove existing pavements to the limits shown on the Drawings, or if not shown, to the minimum extent possible to perform the work.
- B. Saw-cut asphalt and concrete paved surfaces before removal. Use a saw which will cut a neat, and straight joint line.
- C. Remove manhole frames, covers, and risers where indicated on the Drawings or as directed by the Engineer.
- D. Excavate adjacent roadway base as required to perform Work.

#### 3.03 INSTALLATION OF PRECAST STRUCTURES

- A. Place riser and top sections in the appropriate height combinations.
- B. Follow manufacturer's instructions for sealing joints between frame and riser rings. Provide two rings of 1-inch diameter butyl rubber sealant.
- C. Point joints inside and out with butyl caulk.
- D. Set frames and covers to 3/8" below final pavement grade or as shown on the Drawings in paved areas.
- E. Provide adequate temporary covers to prevent accidental entry until final placement of frame and cover is made.

- F. Provide downward force to frame so as to compress the joint and provide a watertight seal and prevent future settlement.
- G. Set frames and covers to final grade only after pavement base course has been applied, or after final grading of gravel roads.

\*\*\*END OF SECTION\*\*\*

02717-3

**SECTION 02930**

**LAWNS AND GRASSES**

## SECTION 02930 - LAWNS AND GRASSES

### PART 1 - GENERAL

#### 1.01 DESCRIPTION OF WORK

- A. Provide landscape development work as shown on drawings, or as needed to restore disturbed areas, including:  
  
Repairing disturbed grassed areas.  
Mulching of all revegetated areas.
- B. Repair all grassed areas disturbed during performance of the Work. Where existing topsoil remains, provide seed, lime and fertilizer to re-establish lawn. Provide additional topsoil where necessary. Sodding may be substituted at the Contractor's discretion.
- C. Earthwork: See Section 02200.

#### 1.02 QUALITY ASSURANCE

- A. Comply with all requirements of Maine Department of Transportation, "Standard Specifications for Highway and Bridges" April, 1995 Revision.

#### 1.03 SUBMITTALS

- A. Certification:
  - 1. Submit manufacturer's or vendors certified analysis for soil amendments and fertilizer materials. Submit other data substantiating that materials comply with specified requirements.
  - 2. Submit seed vendor's certified statement for each grass seed mixture required, stating botanical and common name, percentage by weight, and percentages of purity, germination, and weed seed for each grass seed species.
- B. Samples: Submit sample of topsoil material to be used, for approval by Owner.

#### 1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.
- B. Sod: Time delivery so that sod will be placed within 24 hours after stripping. Protect sod against drying and breaking of rolled strips.

#### 1.05 JOB CONDITIONS

- A. Proceed with and complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of landscape work required. When conditions detrimental to plant growth are encountered, notify Owner before planting.

### PART 2 - PRODUCTS

#### 2.01 TOPSOIL

- A. Provide topsoil as required to complete repair of lawn areas.
- B. Provide topsoil which is fertile, friable, natural loam surface soil found at a depth of not less than 4" from the original ground surface, reasonably free of subsoil, clay lumps, brush, weeds and other litter, and free of roots, stumps, stones larger than 1/2" in any dimension, and debris.
- C. Obtain topsoil from local sources or from areas having similar soil characteristics to that found at project site. Obtain topsoil only from naturally, well-drained sites where topsoil occurs in a depth of not less than 4"; do not obtain from bogs or marshes.

#### 2.02 SOIL AMENDMENTS

- A. Lime: Natural limestone containing not less than 90% total carbonates, ground so that not less than 90% passes a 10-mesh sieve and not less than 50% passes a 100-mesh sieve.
- B. Fertilizer: 10-10-10 grade commercial type with 50% of the elements derived from organic sources.

## 2.03 GRASS MATERIALS

### A. Sod:

1. Provide strongly rooted sod, not less than 2 years old, free of weeds and undesirable native grasses and machine cut to pad thickness of  $\frac{3}{4}$ " (+/-  $\frac{1}{4}$ " ), excluding top growth and thatch.
2. Provide only sod capable of vigorous growth and development when planted (viable, not dormant).
3. Provide sod of uniform pad sizes with maximum 5% deviation in either length or width. Broken pads or pads with uneven ends will not be acceptable.
4. Sod pads incapable of supporting their own weight when suspended vertically with a firm grasp on upper 10% of pad will be rejected.

### B. Grass Seed: Provide fresh, clean, new-crop seed.

Germination: Not less than 80%

Purity: Not less than 85%

Weed content: Not more than 1%

Do not use seed which has become wet, moldy or damaged.

### C. Seed Mixture: 40% Red Fescue, 50% Kentucky Bluegrass, 10% Perennial Rye grass.

## 2.04 MULCH

### A. Straw mulch shall consist of long fibered straw, free from noxious weeds, seeds, and other undesirable material.

1. No material which is wet, decayed, or compacted shall be used.
2. No chopped hay, grass clippings, or other short fibered material shall be used unless directed.

## PART 3 - EXECUTION

### 3.01 RESTORATION SEQUENCING

- A. Restore all vegetated surfaces immediately upon completion of construction work with reasonable delays for weather conditions excluded.
- B. Follow erosion control requirements defined in Contract Documents during all periods up to full establishment of vegetation as accepted by Owner.
- C. No more than 500 LF of sewer trench may remain unvegetated at any time. Owner or Engineer may require Contractor to suspend all other work to complete surface restoration should the 500 LF limit be exceeded. Such suspension shall not be cause for claim of damages by Contractor.
- D. No more than 3000 SF of disturbed surface area may remain unvegetated at any time. Owner or Engineer may require Contractor to suspend all other work to complete surface restoration should the 3000 SF limit be exceeded. Such suspension shall not be cause for claim of damages by Contractor.
- E. Owner views prompt surface restoration as very high priority on this project and Contractor shall make every effort to comply with this requirement including adding additional project personnel as required to perform site restoration work.

### 3.02 PREPARATION

- A. Protect existing underground improvements from damage.
- B. Remove foreign materials, plants, roots, stones, and debris, from site. Do not bury foreign material.
- C. Mix soil amendments and fertilizers with topsoil. Mix lime with dry soil prior to mixing of fertilizer. Delay mixing of fertilizer if planting will not follow placing of planting soil within a few days.
- D. Spread top soil to minimum depth of 4 inches (or to depth indicated on Drawings) after light rolling and natural settlement. Add specified soil amendments and mix thoroughly into upper 2" of topsoil.

- E. Dispose of subsoil removed from landscape excavations. Do not mix with planting soil or use as backfill.

### 3.03 PLANTING

- A. Apply grass seed with hydroseed at rate of 5 lbs/1000 SF.
- B. Mulch all areas with straw.
- C. Repair areas damaged by Contractor's operations as directed by the Owner.
- D. Water newly planted areas and keep moist until new grass is established.

### 3.04 MULCHING

- A. Straw mulch for both seeded and unseeded areas shall be spread evenly and uniformly over the designated areas.
- B. Unless otherwise directed, mulch shall be applied at the rate of 1.5 to 2 tons per acre. Too heavy an application of mulch shall be avoided. Lumps and thick mulch material shall be thinned.
- C. Temporary mulching shall be spread immediately to protect wetlands and surface waters from erosion during all stages of construction throughout all seasons of the year.

### 3.05 MAINTENANCE

- A. Begin maintenance immediately after planting.
- B. Maintain until final acceptance but in no case less than 60 days after substantial completion of planting.
- C. Maintain lawns by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, regrading and replanting as required to establish a smooth, acceptable lawn, free of eroded or bare areas.

### 3.06 CLEANUP AND PROTECTION

- A. Restore pavement, grassed areas and planted areas damaged during execution of work of this Section.

3.07 INSPECTION AND ACCEPTANCE

- A. General: Work may be inspected for acceptance in parts agreeable to Owner, provided work offered for inspection is complete, including maintenance.
- B. Replace rejected work and continue specified maintenance until reinspected by Owner and found to be acceptable. Remove rejected materials promptly from project site.

3.08 EROSION REPAIRS

- A. Repair all erosion that occurs in vegetated area as the result of the grass root structure not being fully established and all erosion that occurs during the warranty period. Such repairs shall be at no cost to Owner.

\*\*\*END OF SECTION\*\*\*

**DIVISION 3**  
**CONCRETE**

**SECTION 03300**

**CAST-IN-PLACE CONCRETE**

## SECTION 03300 - CAST-IN-PLACE CONCRETE

### PART 1 - GENERAL

#### 1.01 DESCRIPTION OF WORK

- A. Provide all cast-in-place concrete work, including:

Concrete thrust blocks at all pressure pipe bends  
Concrete road base repair  
Manhole inverts  
Blocks for cleanout covers

#### 1.02 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of following codes, Specifications and standards, except where more stringent requirements are shown or specified:

ACI "Manual of Concrete Practice".  
Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice".  
ANSI or ASTM standards for concrete as referenced or appropriate.

- B. Testing by Owner: Field tests will be by the Engineer's representative or by an independent testing laboratory.

1. Tests will be done for slump, air content and concrete temperature.
2. Compression test specimens will be taken and tested for compression.

- C. Testing and Services by Contractor: Performed by an approved testing laboratory at the Contractor's expense:

1. Retesting of rejected materials and installed work.
2. Any additional testing conducted for early detection of strength to accommodate Contractor's work schedule.

3. Contractor to furnish equipment including buckets, shovels, and wheelbarrows for proper sampling of concrete mix, facilities for storing and curing specimens at the job site, and labor to assist technician performing field tests.
- D. Materials and installed work may require testing and retesting at any time during the progress of the Work as directed by the Engineer. Allow free access to material stockpiles and facilities. These tests will be done by an independent approved laboratory at the Contractor's expense.

### 1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's product data with application and installation instructions for proprietary materials and items, including:
  1. Reinforcement.
  2. Admixtures.
  3. Curing compounds.
  4. Others as requested by Engineer.
- B. Material Certificates:
  1. Provide materials certificates in lieu of materials laboratory test reports when permitted by Engineer.
  2. Material certificates shall be signed by manufacturer and Contractor certifying that each material item complies with, or exceeds, specified requirements.
- C. Samples: Submit samples of materials as specified and as otherwise requested by Engineer, including names, sources and descriptions.
- D. Laboratory Test Reports and Mix Designs:
  1. Submit laboratory test reports for concrete materials for all products to be incorporated into work and mix design tests as specified.
  2. Testing shall be conducted within twelve months of material use.

## PART 2 - PRODUCTS

### 2.01 REINFORCING MATERIALS

- A. Reinforcing Bars: ANSI/ASTM A 615, Grade 60, deformed.

### 2.02 CONCRETE MATERIALS

- A. Portland Cement: ANSI/ASTM C 150, Type II. Use one brand of cement throughout project, unless otherwise acceptable to Engineer.
- B. Normal Weight Aggregates:
  - 1. ANSI/ASTM C 33, and as herein specified.
  - 2. Provide aggregates from a single source for exposed concrete.
  - 3. Local aggregates not complying with ANSI/ASTM C 33, but which have shown by special test or actual service to produce concrete of adequate strength and durability, may be used when acceptable to the Engineer.
- C. Water: Potable.
- D. Air-Entraining Admixture: ANSI/ASTM C 260.
- E. Water-Reducing Admixture: ANSI/ASTM C 494, Type A, and containing not more than 1% chloride ions.
- F. High Range Water Reducing Admixture (Super Plasticizer): ASTM C 494, Type F or Type G and containing not more than 1% chloride ions.
- G. Calcium chloride not permitted.

### 2.03 RELATED MATERIALS

- A. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd., complying with AASHTO M 182, Class 2.
- B. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.
  - 1. Waterproof paper.

2. Polyethylene film.
  3. Polyethylene coated burlap.
- C. Curing Compound:
1. For surfaces to which there will be subsequent application of grout, waterproofing, sealant, or other treatment, provide dissipating curing compound meeting ASTM C 309, Type 1 or 1D and AASHTO M 148-, Harris Emulsion Kurseal 309 Clear Emulsion, or equal.
- D. Evaporation Control: Monomolecular film forming compound applied to exposed concrete slab surfaces for temporary protection from rapid moisture loss equal to Confilm by Master Builders.
- E. Non-Shrink Grout:
1. CRD-C 621 (ASTM C1107), factory pre-mixed grout with minimum 1000 psi compressive strength in 1 day and 5000 psi compressive strength in 28 days as tested per ASTM C109.
  2. Equal to Sikagrout 212, or Masterflow 928,
- F. Epoxy Grout: 2 component 100 percent solids, non-sag paste epoxy adhesive complying with ASTM C881 OF Type listed below, Grade 3, Class B & C unless otherwise acceptable to Engineer. Equal to Concrecive Paste by Master Builders. Type of epoxy grout shall be as follows:
- a. Type I – Use to bond hardened concrete to hardened concrete in non-load bearing applications.
  - b. Type II – Use to bond fresh concrete to hardened concrete in non-load bearing applications.
  - c. Type IV – Use to bond hardened concrete to hardened concrete in loading bearing applications.
  - d. Type V – Use to bond fresh concrete to hardened concrete in load bearing applications.

- G. Bonding Agent: 2-component, solvent-free, moisture insensitive structural epoxy adhesive complying with ASTM C-881, Type II, Grade 2, Class C, unless otherwise acceptable to Engineer. Equal to "Sikadur 32, Hi-Mod", by Sika Corp., or Concrese Liquid LPL by Master Builders.

#### 2.04 PROPORTIONING AND DESIGN OF MIXES

- A. Prepare design mixes by either laboratory trial batch or field experience methods as specified in ACI 301.

1. If trial batch method used, use an independent testing facility acceptable to Engineer for preparing and reporting proposed mix design.
2. Test data provided shall be no more than one year old and shall be conducted on materials to be incorporated into work.

- B. Submit written reports to Engineer of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Engineer. Include the following in mix design submittals:

- Identification of aggregate source.
- Results of compliance tests for aggregates.
- Scale weights of each aggregate.
- Absorbed water in each aggregate.
- Brand, type, and amount of each cement and each admixture.
- Proportions of each material required per cubic yard.

- C. Design mixes to provide normal weight concrete with the following properties.

1. General Use Concrete:

- Type II Portland Cement.
- Min. 28 day compressive strength: 4000 psi.
- Max. water/cement ratio: 0.45.
- Min. cement content: 564 lbs per cubic yard.
- Slump: Concrete for general use: not less than 1", not more than 4".
- Sloping surfaces: slump not more than 3".
- Concrete with high range water reducer (HRWR) admixture: not more than 8".
- Max. aggregate size: 3/4".
- Air Content: 6% +/- 1% by volume for 3/4" aggregate.
- Flyash shall be Class F and shall not exceed 10% cement content, meeting ASTM C618.

2. MDOT Approved Class LP Concrete:

- Type II Portland Cement with Silica, Flyash or slag added in accordance with ASTM C618.
- Min. 28 day compressive strength: 5000 psi.
- Max. water/cement ratio: 0.42 including flyash or silica.
- Slump: not less than 1", not more than 4" unless with high range water reducer (HRWR) admixture, then not more than 8".
- Max. size aggregate: 1".
- Air content: 6% to 9%.
- No calcium chloride allowed.
- Flyash shall be Class F and shall not exceed 20% of cement content.
- Accelerator may be added to facilitate putting concrete back into traffic service sooner.

D. Adjustment of Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Engineer. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Engineer before using in work.

E. Concrete for cast-in-place thrust block shall have a minimum 28 day compressive strength of 2000 psi.

2.05 CONCRETE MIXING

A. Job-Site Mixing:

1. Mix materials for concrete in appropriate drum type batch machine mixer.
2. For mixers of one cu. yd., or smaller capacity, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
3. For mixers of capacity larger than one cu. yd., increase minimum 1-1/2 minutes of mixing time by 15 seconds for each additional cu. yds., or fraction thereof.

B. Ready-Mix Concrete:

1. Comply with requirements of ANSI/ASTM C 94, and as herein specified.
2. Water may be added for retempering provided maximum permissible slump and maximum water cement ratio is not exceeded. Do not make additions without notifying the Engineer.
3. Additional field tests and compressive test specimens may be required.
4. Provide batch ticket for each batch discharged and used in work, indicating project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.

C. Maximum Delivery Time:

1. 1 1/2 hours below 85°F, or
2. When air temperature is between 85° F and 90° F, reduce mixing and delivery time from 1 1/2 hours to 75 minutes, or
3. When air temperature is above 90° F, reduce mixing and delivery time to 60 minutes.
4. Calculation of delivery time shall start at the point that water is first added to the mix.

PART 3 - EXECUTION

3.01 PREPARATION OF CONCRETE SURFACES

- A. Prepare existing concrete surfaces over or against which new concrete will be placed in accordance with bonding agent requirement.
- B. Clean and etch existing concrete surfaces over which specialty concrete surfaces will be bonded. Use etching material and procedure required by manufacturer of specialty mix products.

### 3.02 PLACING REINFORCEMENT

- A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.
- C. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.

### 3.03 ADMIXTURES

- A. General: Comply strictly with manufacturer's instructions for use of admixtures.
- B. Use water-reducing admixture or high-range water-reducing admixture (superplasticizer) meeting ASTM C-494 in concrete, as required, for placement and workability.
- C. Use accelerating admixture meeting ASTM C 494 in concrete slabs placed at ambient temperatures below 50° F (10° C).
- D. High range water reducing admixture may be used in pumped concrete, concrete for heavy use industrial slabs, architectural concrete, parking structure slabs, concrete required to be watertight.
- E. Use air-entraining admixture meeting ASTM C-260 in all concrete. Add air-entraining admixture at six percent or manufacturer's prescribed rate to result in concrete at point of placement having air content within limits stated above.

### 3.04 CONCRETE PLACEMENT

- A. General:
  - 1. Comply with ACI 301, and these specifications.
  - 2. Before placing concrete, inspect and complete formwork and rebar installation.

3. Coordinate the installation of joint materials and moisture barriers with placement of forms and reinforcing steel.
- B. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness.
1. If a section cannot be placed continuously, provide construction joints as herein specified.
  2. Deposit concrete as nearly as practicable to its final location to avoid segregation.
  3. Maximum concrete freefall drop shall be four feet.
  4. Use chute or tremie to minimize freefall.
- C. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI 301 recommended practices.
- D. Placing Concrete Slabs: Deposit and consolidate concrete base slab in a continuous operation.
- E. Bring slab surfaces to correct level with straightedge and strike-off. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.
- F. Maintain reinforcing in proper position during concrete placement operations.
- G. Cold Weather Placing:
1. Comply with ACI 306 Cold Weather Concreting. When air temperature has fallen to or is expected to fall below 40°F (4°C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50°F (10°C), and not more than 80°F (27°C) at point of placement.
  2. Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures.

3. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
4. Do not use calcium chloride, salt and other materials containing antifreeze agents or chemical accelerators.

H. Hot Weather Placing:

1. Comply with ACI 305R when hot weather conditions exist that would impair quality and strength of concrete.
2. Maintain concrete temperature at time of placement below 90°F (32°C).
3. Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing.
4. Cover reinforced steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature before embedment in concrete.
5. Wet forms and rebar thoroughly before placing concrete. Remove standing, free, or otherwise excess water before concrete placement.
6. Use water-reducing retarding admixture (Type D) when required by high temperatures, low humidity, or other adverse placing conditions.

I. Wet Weather Placing:

1. Do not place concrete in any wet weather event with the exception of light mist or drizzle where, in the opinion of the Engineer, vibration of the concrete might incorporate falling rain into the concrete mixture.
2. Contractor is responsible to assure weather is appropriate prior to concrete pour.
3. Cover and protect placed concrete from precipitation and flooding.
4. Remove all concrete placed in wet weather as directed by Engineer.

### 3.05 CONCRETE CURING AND PROTECTION

#### A. General:

1. Comply with ACI 301.
2. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
3. Start curing as soon as free water has disappeared from concrete surface after placing and finishing.
5. Where curing compounds are utilized, begin curing procedures immediately following final finishing procedures and before concrete has dried.

#### B. Curing Methods: Perform curing of concrete by one of the following methods or by combinations thereof:

1. Provide moisture curing with added water by following methods.
  - a) Keep concrete surface continuously wet by covering with water.
  - b) Continuous water-fog spray.
  - c) Provide absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4" lap over adjacent absorptive covers.
2. Provide moisture retaining cover curing as follows:
  - a) Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3" and sealed by waterproof tape or adhesive.
  - b) Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. Provide curing compound as follows:
  - a) Apply specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours).

- b) Apply uniformly in continuous operation by power-spray or roller in accordance with manufacturer's directions.
- c) Recoat areas subjected to heavy rainfall within 3 hours after initial application.
- d) Maintain continuity of coating and repair damage during curing period.
- e) Do not allow curing compound to contact reinforcing steel and waterstops.
- f) Curing compound shall not be used on finish floors where adhesive products will be subsequently applied unless approved by Engineer.

### 3.06 INADEQUATE CONCRETE STRENGTH

- A. Defective Structural Work: Any work which fails to comply with the requirements of these specifications or does not comply with the acceptance requirements of Chapters 17 and 18 of ACI 301.
- B. Remedies: Work which may be modified to comply with these specifications using methods approved by Engineer may be accepted. All modifications are at the Contractor's expense.
- C. If test results show inadequate concrete strength the following may be required at the Contractor's expense:
  - 1. Additional curing of areas with inadequate concrete.
  - 2. Modifications to mix designs for remaining work.
  - 3. Removal and replacement of concrete.

### 3.07 PLACEMENT OF PRESSURE PIPE THRUST BLOCKS

- A. Concrete shall be poured in place or precast.
  - I. Poured in place thrust blocks shall be constructed by pouring concrete between the fitting and the undisturbed wall of the trench. Care shall be

exercised to ensure that the concrete is clear of joint accessories, bolts, nuts, and flanges.

B. Thrust blocks are required wherever the pipe:

1. Changes direction at tees, bends, crosses, and tapping sleeves.
2. Changes sizes, as at reducers.
3. Stops, as at dead ends and hydrants.
- 4.

### 3.08 QUALITY CONTROL TESTING DURING CONSTRUCTION

A. The Owner will employ an independent testing laboratory to perform field tests and to submit test reports. If so specified, payment for testing may be through a Contractor's testing allowance.

B. Sampling and testing for quality control during placement of concrete may include the following, as directed by Engineer:

1. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.
2. Slump: ASTM C 143; at point of discharge.
3. Air Content: ASTM C 173, volumetric method for lightweight or normal weight concrete; ASTM C 231 pressure for normal weight concrete.
4. Concrete Temperature: Test hourly when air temperature is 40° F (4°C) and below, and when 80°F (27°C) and above.
5. Compression Test Specimen: ASTM C 31; one set of 4 standard cylinders made and cured for each 50 CY or fraction thereof of each type of concrete placed in any one day.
6. Compressive Strength Tests: ASTM C 39; 1 specimen tested at 7 days, 2 specimens tested at 28 days, 1 specimen retained in reserve for later testing if required.

- a) When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.
  - b) Concrete is satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 500 psi.
7. Field Testing for Small Placements: For small placements of 10 cubic yards or less, sampling and testing the first portion of a batch will be required prior to placement. Prior to small placements meet with Engineer and determine an acceptable testing procedure based on the first portion of each batch.
- C. Test results will be reported in writing to Engineer.
- 1. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength and type of break for both 7-day tests and 28-day tests.
- D. Additional Tests:
- 1. The independent testing laboratory will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Engineer.
  - 2. Independent testing laboratory may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as stated in ACI 301.
  - 3. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is identified.

\*\*\*END OF SECTION\*\*\*

## **DIVISION 7**

# **THERMAL AND MOISTURE PROTECTION**

**SECTION 07200**

**INSULATION**

## SECTION 07200 - INSULATION

### PART 1 - GENERAL

#### 1.01 DESCRIPTION OF WORK

- A. Install insulation as shown on Drawings and indicated by provisions of this section. Insulation specified in this section includes the following:

Rigid foam insulation for pipe trenches

#### 1.02 QUALITY ASSURANCE

- A. Thermal Conductivity: Thicknesses indicated for board insulation are for thermal conductivity (k-value at 75°F or 24°C) specified for each material. Provide adjusted thicknesses as directed for equivalent use of material having different thermal conductivity.

#### 1.03 PRODUCT HANDLING

- A. General Protection: Protect insulations from physical damage and from becoming wet, soiled, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storage and protection during installation.

#### 1.04 SUBMITTALS

- A. Product data for each type of insulation proposed.
- B. Technical data showing thermal properties of product.

### PART 2 - PRODUCTS

#### 2.01 INSULATION

- A. Rigid Board-Type Insulation for Trenches and Pipe Insulation: Closed-cell rigid foamed polystyrene, equal to "Styrofoam" HI-60, by Dow Chemical, or Owens Corning Foamular 600. Thickness as shown.

1. Thermal resistance: Aged R-value = 5 per inch of 75°F mean temperature.
2. Compressive strength  $\geq$  60 psi.
3. Flexural strength  $\geq$  75 psi.
4. Minimum density 1.60 PCF.
5. Water adsorption  $\leq$  0.1 percent by volume.
6. Coefficient of linear thermal expansion: maximum  $3.5 \times 10^{-5}$  in/ °F.
7. Complies with ASTM C578 Type VII.

### PART 3 - EXECUTION

#### 3.01 INSPECTION AND PREPARATION

- A. Clean substrates of substances harmful to insulations or vapor and moisture barriers, including removal of projections which might cause punctures.

#### 3.02 INSTALLATION OF RIGID BOARD INSULATION

##### A. General:

1. Comply with manufacturer's instructions for particular conditions of installation in each case. If printed instructions are not available or do not apply to project conditions, consult manufacturer's mechanical representative for specific recommendations before proceeding with work.
2. Extend board insulation full thickness as shown over entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections which interfere with placement.
3. Apply a single layer of board insulation of required thickness, unless otherwise shown or required to make up total thickness.
4. For pipe trench insulation, provide to the extent practical, full sheets of insulation over trench width to minimize the number of openings between

sheets. Add 2' long piece of insulation over each joint. Use four foot minimum width sheets centered on pipe(s), and add additional width to fill trench as necessary, or as directed by Engineer.

5. Over or adjacent to precast concrete structures, provide 4' wide sheets over structure and extend outside structural wall a minimum of 2' for full perimeter.

\*\*\*END OF SECTION\*\*\*

## 2020 STANDARD DETAIL UPDATES

Standard Details and Standard Detail updates are available at:  
<http://maine.gov/mdot/contractors/publications/standarddetail/>

| <b><u>Detail #</u></b> | <b><u>Description</u></b>    | <b><u>Posted Date</u></b> |
|------------------------|------------------------------|---------------------------|
| 502(19)                | Bridge Drains                | 3/17/2023                 |
| 502(15)                | Bridge Drains                | 3/17/2023                 |
| 502(20)                | Bridge Drains                | 3/17/2023                 |
| 502(23)                | Bridge Drains                | 3/17/2023                 |
| 502(24)                | Bridge Drains                | 3/17/2023                 |
| 502(25)                | Bridge Drains                | 3/17/2023                 |
| 502(26)                | Bridge Drains                | 3/17/2023                 |
| 504(07)                | Diaphragm & Crossframe Notes | 3/17/2023                 |
| 507(20)                | Steel Approach Railing 3-Bar | 2/11/2021                 |
| 507(21)                | Steel Approach Railing 3-Bar | 2/11/2021                 |
| 507(22)                | Steel Approach Railing 3-Bar | 2/11/2021                 |
| 507(23)                | Steel Approach Railing 3-Bar | 2/11/2021                 |
| 507(27)                | Steel Approach Railing       | 2/11/2021                 |
| 526(01)                | Portable Concrete Barrier    | 1/14/2021                 |
| 526(01A)               | Portable Concrete Barrier    | 1/14/2021                 |
| 526(01B)               | Portable Concrete Barrier    | 1/14/2021                 |
| 526(02)                | Portable Concrete Barrier    | 1/14/2021                 |
| 526(02A)               | Portable Concrete Barrier    | 1/14/2021                 |
| 526(03)                | Portable Concrete Barrier    | 1/14/2021                 |
| 526(04)                | Portable Concrete Barrier    | 1/14/2021                 |
| 526(04A)               | Portable Concrete Barrier    | 1/14/2021                 |
| 526(04B)               | Portable Concrete Barrier    | 1/14/2021                 |
| 526(05)                | Permanent Concrete Barrier   | 3/17/2023                 |
| 526(21)                | Permanent Concrete Barrier   | 3/17/2023                 |
| 526(22)                | Concrete Transition Barrier  | 3/17/2023                 |
| 526(38)                | Concrete Transition Barrier  | 3/17/2023                 |
| 526(39)                | Texas Classic Rail           | 3/17/2023                 |
| 526(55)                | Texas Classic Rail           | 3/17/2023                 |

|         |                                                  |            |
|---------|--------------------------------------------------|------------|
| 603(10) | Concrete Pipe Ties                               | 6/10/2021  |
| 605(01) | Underdrain                                       | 7/8/2022   |
| 605(01) | Underdrain Notes                                 | 7/8/2022   |
| 606(17) | Midway Splice Guardrail Transition               | 6/10/2022  |
| 606(23) | Standard Bridge Transition – Type “1”            | 2/11/2021  |
| 606(24) | Standard Bridge Transition – Type “1A”           | 2/11/2021  |
| 608(02) | Detectable Warnings                              | 6/10/2021  |
| 609(09) | Precast Concrete Vertical Curb                   | 2/11/2021  |
| 627(07) | Crosswalk                                        | 2/22/2022  |
| 627(08) | Crosswalk                                        | 2/22/2022  |
| 643(11) | ATCC Cabinet                                     | 12/14/2020 |
| 645(06) | H Beam Posts Highway Signing                     | 12/17/2024 |
| 801(11) | Pedestrian Ramp Notes                            | 11/20/2023 |
| 801(12) | Pedestrian Ramp Requirements                     | 11/20/2023 |
| 801(13) | Ramp Length Table                                | 11/20/2023 |
| 801(14) | Parallel Pedestrian Ramp                         | 11/20/2023 |
| 801(15) | Perpendicular Pedestrian Ramp – Option 1         | 11/20/2023 |
| 801(16) | Parallel Pedestrian Ramp – Option 2A             | 11/20/2023 |
| 801(17) | Perpendicular Pedestrian Ramp – Option 2A        | 11/20/2023 |
| 801(18) | Parallel Pedestrian Ramp – Option 2B             | 11/20/2023 |
| 801(19) | Perpendicular Pedestrian Ramp – Option 2B        | 11/20/2023 |
| 801(20) | Parallel Pedestrian Ramp – Option 3              | 11/20/2023 |
| 801(21) | Perpendicular Pedestrian Ramp – Option 3         | 11/20/2023 |
| 801(22) | Side Street Pedestrian Ramp                      | 11/20/2023 |
| 801(23) | Parallel Pedestrian Ramp – Esplanade             | 11/20/2023 |
| 801(24) | Perpendicular Pedestrian Ramp – Esplanade        | 11/20/2023 |
| 801(25) | Island Crossings                                 | 11/20/2023 |
| 801(26) | Blended Transition                               | 11/20/2023 |
| 801(26) | Blended Transition                               | 1/19/2024  |
| 801(27) | Pedestrian Ramp Adjacent to Driveway or Entrance | 11/20/2023 |
| 802(05) | Roadway Culvert End Slope Treatment              | 1/03/2017  |
| 802(05) | Roadway Culvert End Slope Treatment              | 11/01/2024 |

**SUPPLEMENTAL SPECIFICATIONS**  
**(Corrections, Additions, & Revisions to Standard Specifications – March 2020)**

**SECTION 101**  
**CONTRACT INTERPRETATION**

**101.2 Definitions**

**Construction Easement** revise this definition by removing it in its entirety and replace with:  
**“A right acquired by the Department for a specific use of private property outside of the established Right-of-Way. Examples include but are not limited to Drainage Easements, Construction and Maintenance Easements, and Slope Easements. Construction Easement areas, including Temporary Construction Limits and Temporary Road Limits, outside of the Right-of-Way remain private property. No use other than to access and perform the specified work activity is permitted without written permission of the owner.”**

**Construction Limit Line** Remove this definition in its entirety.

**Holidays** Amend this paragraph by adding “**Juneteenth**” between ‘Memorial Day’ and ‘Independence Day’.

**Plans** Revise this paragraph by removing “**Standard Details, Supplemental Standard Details**” from the first sentence.

**Project Limits** Revise this definition by removing it in its entirety and replacing it with:  
**“Areas within the Right-of-Way, Construction Easements, or Temporary Construction Limits shown on the Plans or otherwise indicated in the Contract. If no Project Limits are indicated in the Contract, the Project Limits shall be determined by the Department. For a related Maine statute, see 23 MRSA § 653. “**

**Right-Of-Way** Revise this definition by removing it in its entirety and replacing it with:  
**“The area of land, property, or interest therein, acquired for or devoted to the Project or other purposes. Portions of the Right-of-Way may be used for storage of materials and equipment and the location of engineering facilities, subject to written approval by the Department.”**

Amend this Section by adding the following two definitions (that replace Construction Limit Line);

**Temporary Construction Limits** The area within which the Contractor may access and perform the Physical Work and outside of which Work may not be performed without written authorization by the property owner.

**Temporary Road Limits** The area within which the Contractor may construct and maintain a temporary detour for maintenance of traffic.

## SECTION 102 BIDDING

102.11 Bid Responsiveness Revise the paragraph that states  
“The Bid is not signed by a duly authorized representative of the Bidder.” So that it reads:

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

- Properly submitted electronic bids meet this requirement.
- Paper bids must include at least one signed copy of the Contract Agreement Offer & Award form.”

## SECTION 103 AWARD AND CONTRACTING

103.3.1 Qualification Requirement for Award Revise this subsection so that it reads:

**“103.3.1 Qualification Requirement for Award If the Notice to Contractors lists a Prequalification requirement, the Apparent Successful Bidder must successfully complete the Prequalification process as a condition of Award. The Apparent Successful Bidder who does not already hold an Annual Prequalification shall have 21 days to provide the Department with their Prequal documents or the Department may move on to the next low bidder.”**

## SECTION 104 GENERAL RIGHTS AND RESPONSIBILITIES

104.2.1 Furnishing of Right-of-Way Revise this subsection by removing it in its entirety and replace with the new subsection:

**“104.2.1 Furnishing of Property Rights The Department will secure all necessary rights to real property within the Project Limits shown on the Right-of-Way Plans that are provided with the Bid Documents. For related provisions, see Sections 104.3.2 – Furnishing of Other Property Rights, Licenses and Permits and 105.4.5 - Maintenance of Existing Structures. For related definitions, see Construction Easements and Right-of-Way.”**

104.3.2 Furnishing of Other Property Rights, Licenses and Permits Revise this subsection by replacing “104.2.1 Furnishing of Right-of-Way” with “**104.2.1 Furnishing of Property Rights**”.

## SECTION 105 GENERAL SCOPE OF WORK

Amend this Section by adding this new sub-section:

**105.8.8 Protected Species If the Contractor witnesses a bat (dead or alive), any activities that may injure any live bats must cease immediately and the Contractor shall contact the**

**Resident. Dead and/or injured bats will be collected by the Department. Work in the vicinity of the live/dead bat sighting will not resume until the Department confirms it is acceptable to do so.**

**If the Contractor observes an active bird nest within the project limits, any activities that may disturb the nest or injure birds (i.e., nesting adults, chicks, eggs) must cease immediately, and the Contractor shall contact the Resident.**

Amend this Section by adding this new sub-section to cover incidents in the field:

**105.6.5 Survey Control Markers If a survey control marker will be disturbed by Work on a project, the Resident shall be informed a minimum of 2 weeks prior to performing any Work that may disturb the marker. If a survey control marker is accidentally disturbed by Work on a project, the Resident shall be informed immediately. A disturbed marker will remain the property of the Department.**

**105.10.1.4 Race-conscious Project Goals Revise the second paragraph of this section so it reads as follows:**

**“At the time of the bid opening, all Bidders shall submit with their bid a Disadvantaged Business Enterprise (DBE) Commitment Form provided by the Department. This form will list the DBE and non-DBE firms that are proposed to be used during the execution of the Work. This form must be filled out in its entirety. The dollar total of each commitment shall be totaled and a percentage determined.”**

**105.10.2 Requirements Applicable to All Contracts Under section A, number 2, in the first sentence of the first paragraph, revise this Section by replacing the word “handicap” in two places with the word “disability” so it now reads:**

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

**105.10.1.6 Bidders’ List Survey This section shall be revised to meet the May 9, 2024 CFR changes as follows:**

**Revise the title of this Section to “**Bidders’ List**” by removing the word “**Survey**”.**

**Revise the current information required to:**

- (i) Firm name;**
- (ii) Firm address including ZIP code;**
- (iii) Firm’s status as a DBE or non-DBE;**
- (iv) Race and gender information for the firm’s majority owner;**
- (v) NAICS code applicable to each scope of work the firm sought to perform in its bid;**
- (vi) Age of the firm; and**

**(vii) The annual gross receipts of the firm. You may obtain this information by asking each firm to indicate into what gross receipts bracket they fit (e.g., less than \$1 million; \$1-3 million; \$3-6 million; \$6-10 million; etc.) rather than requesting an exact figure from the firm.**

Revise this section by removing the paragraph beginning with “This information...” and replacing it with the following:

**“This data is required from all bidders for federally assisted contracts to be submitted with their bids as this information is critical in determining the availability of DBE Businesses relative to other businesses that do similar work.”**

## SECTION 106 QUALITY

106.6 Acceptance Revise this Subsection by replacing the paragraph beginning with “Acceptance of Hot Mix Asphalt Pavement will be based” with:

**“Acceptance of Hot Mix Asphalt Pavement will be based on Method A or C Statistical Acceptance, or Method B or D Acceptance as specified. The method of acceptance for each item is defined in Special Provision, Section 403, Hot Mix Asphalt Pavement. When items of Hot Mix Asphalt Pavement are not so designated, Method A will be utilized whenever there are more than 1000 tons per Hot Mix Asphalt Pavement item, and Method B will be utilized when there are less than or equal to 1000 tons per Hot Mix Asphalt Pavement item.”**

Revise Subsection “B” by removing it and replacing it with:

**“B. Items not designated for Statistical Acceptance will utilize Method B or D Acceptance testing to validate the quality of the material incorporated into the Project. For material paid under Item 403.209 – Method D, or designated to be visually accepted, the Contractor shall provide the Department with a Certification Letter that indicates that the material supplied complies with the Specifications. Test results representative of the certified material shall be attached to the letter.**

**The Department will randomly sample and test the certified Material for properties noted in Table 1 of Section 502 - Structural Concrete or Table 14 of Section –401.21 Acceptance Method B & D. Material will be subject to rejection as noted in Structural Concrete Section 502.195 - Quality Assurance Method C Concrete or Hot Mix Asphalt, Section 401.2022 Pay Adjustment – Method B & D.”**

106.7.1 Standard Deviation Method Revise 106.7.1, subsection H by removing the following from the first paragraph:

**“Method B:  $PF = [70 + (Quality\ Level * 0.33)] * 0.01$ ”**

106.9.1 Warranty by Contractor Revise the third paragraph of this section so that it reads:

**“For a related provision regarding obligations regarding plantings, see section 621.36 – Maintenance Period. “**

**SECTION 107**  
**TIME**

107.3.1 General Amend this paragraph by adding “**Juneteenth**” between ‘Patriot’s Day’ and ‘the Friday after Thanksgiving’.

**SECTION 108**  
**PAYMENT**

108.2.3 Mobilization Payments Replace Standard Specification 108.2.3 – Mobilization Payments with the following:

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

**Percent Mobilization Bid will be determined by taking the amount Bid for Mobilization and dividing by the Total Contract Amount less Mobilization. Mob/(Total Contract – Mob).**

**Payment will be made at the following intervals:**

| <b>% Mobilization Bid</b>   | <b>% Mobilization Paid at Contract Award</b> | <b>% Mobilization Paid after the Department determines 50% of the work is Complete</b> | <b>% Mobilization Paid at Final Acceptance</b> |
|-----------------------------|----------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------|
| <b>10% or less</b>          | <b>50%</b>                                   | <b>50%</b>                                                                             |                                                |
| <b>More than 10% to 15%</b> | <b>33%</b>                                   | <b>33%</b>                                                                             | <b>34%</b>                                     |
| <b>More than 15% to 20%</b> | <b>25%</b>                                   | <b>25%</b>                                                                             | <b>50%</b>                                     |
| <b>More than 20% to 30%</b> | <b>15%</b>                                   | <b>15%</b>                                                                             | <b>70%</b>                                     |
| <b>Greater than 30%</b>     | <b>10%</b>                                   | <b>10%</b>                                                                             | <b>80%</b>                                     |

108.3 Retainage Revise the third paragraph of this section so that it reads:

**“Upon Final Acceptance, and determination by the department that there are no claims either by or on the Contractor or Subcontractors; no over payments by the department; no LDs due; and no disincentives due, the Department will reduce Retent to 1% of the original Contract Award amount, or \$100,000, whichever is less, as it deems desirable and prudent.”**

**108.4.1 Price Adjustment for Hot Mix Asphalt** Revise this section by removing it in its entirety and replacing it with the following:

**“108.4.1 Price Adjustment for Hot Mix Asphalt:** For each Contract, a price adjustment for performance graded binder will be made for the following pay items, when the total quantity of Hot Mix Asphalt included in these items is in excess of 500 tons, based on the estimated quantities of these items at the time of bid.

|                |                                                                           |
|----------------|---------------------------------------------------------------------------|
| Item 403.102   | Hot Mix Asphalt – Special Areas                                           |
| Item 403.207   | Hot Mix Asphalt - 19 mm                                                   |
| Item 403.2071  | Hot Mix Asphalt - 19 mm (Polymer Modified)                                |
| Item 403.2072  | Hot Mix Asphalt - 19 mm (Asphalt Rich Base)                               |
| Item 403.208   | Hot Mix Asphalt - 12.5 mm                                                 |
| Item 403.2081  | Hot Mix Asphalt - 12.5 mm (Polymer Modified)                              |
| Item 403.2084  | Hot Mix Asphalt - 12.5 mm (Highly Modified HiMAP)                         |
| Item 403.209   | Hot Mix Asphalt - 9.5 mm (sidewalks, drives, & incidentals)               |
| Item 403.210   | Hot Mix Asphalt - 9.5 mm                                                  |
| Item 403.2101  | Hot Mix Asphalt - 9.5 mm (Polymer Modified)                               |
| Item 403.2104  | Hot Mix Asphalt - 9.5 mm (Thin Lift Surface Treatment)                    |
| Item 403.21041 | Hot Mix Asphalt - 9.5 mm (Polymer Modified Thin Lift Surface Treatment)   |
| Item 403.211   | Hot Mix Asphalt – Shim                                                    |
| Item 403.2111  | Hot Mix Asphalt – Shim (Polymer Modified)                                 |
| Item 403.212   | Hot Mix Asphalt - 4.75 mm (Shim)                                          |
| Item 403.213   | Hot Mix Asphalt - 12.5 mm (base and intermediate course)                  |
| Item 403.2131  | Hot Mix Asphalt - 12.5 mm (base and intermediate course Polymer Modified) |
| Item 403.2132  | Hot Mix Asphalt - 12.5 mm (Asphalt Rich Base and intermediate course)     |
| Item 403.301   | Hot Mix Asphalt (Asphalt Rubber Gap-Graded)                               |
| Item 461.13    | Light Capital Pavement                                                    |
| Item 461.210   | 9.5 mm HMA - Paver Placed Surface                                         |
| Item 461.2101  | Hot Mix Asphalt - 9.5 mm (Polymer Modified)                               |
| Item 461.216   | Hot Mix Asphalt (Shim)                                                    |
| Item 462.30    | Ultra-Thin Bonded Wearing Course                                          |
| Item 462.301   | Polymer Modified Ultra-Thin Bonded Wearing Course                         |

**Price adjustments will be based on the variance in costs for the performance graded binder component of hot mix asphalt. They will be determined as follows:**

The quantity of hot mix asphalt for each pay item will be multiplied by the performance graded binder percentages given in the table below times the difference in price between the base price and the period price of asphalt cement. Adjustments will be made upward or downward, as prices increase or decrease.

Item 403.102–6.2%  
Item 403.207–5.2%  
Item 403.2071–5.2%  
Item 403.2072–5.8%  
Item 403.208–5.6%  
Item 403.2081–5.6%  
Item 403.2084 – 6.2%  
Item 403.209–6.2%  
Item 403.210–6.2%  
Item 403.2101–6.2%  
Item 403.2104–6.2%  
Item 403.21041–6.2%  
Item 403.211–6.2%  
Item 403.2111–6.2%  
Item 403.212–6.8%  
Item 403.213–5.6%  
Item 403.2131–5.6%  
Item 403.2132–6.2%  
Item 403.301–6.2%  
Item 461.13–6.7%  
Item 461.210 – 6.4%  
Item 461.2101 – 6.4%  
Item 461.216 – 6.7%  
Item 462.30–0.0021 tons/SY  
Item 462.301–0.0021 tons/SY”

## SECTION 110 INDEMNIFICATION, BONDING, AND INSURANCE

110.3.2 Commercial General Liability Revise the last sentence in this Section that starts with “The coverage shall also...” and add a sentence to the end so that it reads:

**“The coverage shall also include protection against damage claims due to explosives, collapse, and underground coverage. No endorsement excluding damage caused by subsidence, earth movement, and/or earth pressure shall be permitted.”**

110.3.9 Administrative & General Provisions Amend this subsection by adding “**Automobile Liability**” under letter A) Additional Insured to the list of exceptions.

10. Assurance Required by 49 CFR: 26.13(a)(b) Revise this section by removing it in its entirety and replacing it with the following:

**“a. MaineDOT shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE Program or the requirements of 49 CFR part 26. MaineDOT shall take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. MaineDOT’s DBE Program, as required by 49 CFR part 26 and as approved by DOT, is incorporated by reference in this agreement. The implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the MaineDOT of its failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the MaineDOT of its failure to carry out its approved program, the Department may impose sanctions as provided for under 49 CFR Part 26, and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Remedies Act of 1986 (31 U.S.C. 3801 et seq.). This language will appear in financial assistance agreements with sub-recipients.**

**b. The contractor, sub-recipient, or subcontractor 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 recipient deems appropriate, including, but not limited to:**

- 1. Withholding monthly progress payments;**
- 2. Assessing sanctions;**
- 3. Liquidated damages; and/or**
- 4. Disqualifying the contractor from future bidding as non-responsible.”**

## SECTION 206 STRUCTURAL EXCAVATION

206.01 Description – *Structural Earth Excavation, Below Grade* delete the entire sentence and replace with **“shall consist of the removal of excavation required for unknown or unanticipated subsurface condition. See 206.04 – Method of Measurement for pay limits.”**

206.04 Method of Measurement – Drainage and Minor Structures Paragraph 1, sentence 2, delete the remainder of the sentence beginning with “...provided the maximum allowable...” And replace with: **“...in accordance with the following limits:”**

- Vertical pay limits:**

- Below a plane parallel with and 12 inches below the bottom of the drainage or minor structure or
  - Below the excavation limits shown in the Bid Documents; whichever is greater.
- **Horizontal pay limits** – The maximum allowable horizontal dimensions shall not exceed those bounded by vertical surfaces 18 inches outside the base, or extreme limits of, the structure, and to the vertical neat lines of underdrain trenches, as shown in the Contract Documents.

## SECTION 401 HOT MIX ASPHALT PAVEMENT

401.19 Contractor Quality Control Amend this Section by adding the following to the end:  
**“Failure to comply with the approved QCP will result in work suspension and pay reductions as outlined in Section 106.4.6. The Quality Control Plan Value shall be the total bid value for all items covered by the QCP as identified in Special Provision 403.”**

## SECTION 501 FOUNDATION PILES

501.044 Special Requirements for Steel Pipe Piles and Steel Casings Amend this section by deleting it in its entirety and replacing with:

**Pipe piles shall be driven closed ended, unless otherwise specified. When open-ended pipe piles are specified or when the ends are not completely closed ended when driven, the inside of the pile shall be thoroughly cleaned out, and the inside walls cleaned by jetting or other means approved by the Resident. The sediment control required for the cleaning operations shall be covered in the Contractor’s SEWPCP.**

**Pipe piles shall be inspected and approved by the Resident immediately before concrete is placed in them. They shall be free from rupture and undue deformation and shall be free from water unless the Resident determines that the concrete can be placed without damage to the pile and such that the discharged water will be contained. The Contractor shall provide lights and other equipment necessary to enable the Resident to inspect each pipe pile.**

**Portland cement concrete for filling the pipe piles shall be placed in one continuous operation to fill the pile completely without causing water contamination. An internal type vibrator shall be used in the top 25 feet. Pile heads shall be protected and cured in accordance with Section 502, Structural Concrete.**

**The placing of concrete and the driving of piles shall be scheduled so that fresh and setting concrete will not be injured by the pile driving.**

Concrete shall not be placed in pipe piles until pile driving has progressed beyond a radius of 15 feet from the pile to be concreted. If pile heave is detected for pipe piles that have been filled with concrete, the piles shall be redriven to the original position after the concrete has attained sufficient strength and a proper hammer-pile cushion system, is in place and is satisfactory to the Resident.

When a reinforcing steel cage is specified, it shall be placed inside the piles to allow for a minimum of 2 inches of concrete cover and the piles shall be filled with concrete to the elevation shown on the Plans.

Full-length pipe piles and steel casings shall be used wherever practicable; however, splicing may be permitted when approved by the Resident. The method of splicing shall be as follows:

- a. Steel pipe piles and steel casings shall be spliced by full penetration butt joint welds.
- b. When the pipe piles and steel casings are to be spliced while in a vertical position, splicing shall be accomplished utilizing single-bevel groove welds with the use of back-up rings. When the pipe piles and steel casings are to be spliced while in a horizontal position, splicing shall be accomplished utilizing single-vee groove welds with the use of back-up rings.
- c. Welded joints shall conform to the Standard Details.

501.047 Splicing Piles Amend this section by deleting it in its entirety and replacing it with:

Full-length piles shall always be used wherever practicable. When full-length piles cannot be used, the number of splices, locations, and details shall be noted in the QCP. Piles fabricated from multiple pieces will be acceptable only if they comply with the following:

| H-Beam Piles <sup>a</sup>                                                                                                                                                                                                                                                                     |                           | Pipe Piles and Steel Casings <sup>a,b</sup> |                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------|---------------------------|
| Lengths                                                                                                                                                                                                                                                                                       | Maximum No. Field Splices | Lengths                                     | Maximum No. Field Splices |
| Less than 20 ft.                                                                                                                                                                                                                                                                              | 0                         | Less than 20 ft.                            | 0                         |
| Over 20 – 35 ft.                                                                                                                                                                                                                                                                              | 1                         | Over 20 – 40 ft.                            | 1                         |
| Over 35 – 79 ft.                                                                                                                                                                                                                                                                              | 2                         | Over 40 – 60 ft.                            | 2                         |
| Over 79 ft.                                                                                                                                                                                                                                                                                   | 1 per 40 ft.              | Over 60 – 80 ft.                            | 3                         |
|                                                                                                                                                                                                                                                                                               |                           | Over 80 ft.                                 | 1 per 20 ft.              |
| <sup>a</sup> Pile lengths less than 10 feet will not be spliced, except as the final (top) section of the pile.<br><sup>b</sup> Where pipe piles are used for pile bent piers, no splices will be allowed in the length of pile from the cutoff elevation to 2 feet below the channel bottom. |                           |                                             |                           |

When pre-planned splicing is approved, the pile piece of lesser length shall be placed at the tip of the pile (the first part of the pile that enters the ground).

When splicing is allowed, the work shall be done in accordance with the following:

- A. Welding shall be done in accordance with the requirements of the AWS D1.1 welding code.
- B. Qualify welders in accordance with the most recent edition of the AWS D1.5 code.
- C. Submit a written Weld Procedure Specification (WPS) for each joint to be included as part of the QCP. The WPSs shall be provided to the Fabrication Engineer for review and approval prior to beginning welding. Provide copies of the approved WPSs to the welder, QC Inspector and Resident prior to beginning welding. Welding performed without an approved WPS and approved QCP will be considered Unacceptable Work.
- D. Provide a list of qualified welders with copies of their AWS certifications to the Fabrication Engineer for review prior to beginning welding. Welders shall have in their possession, at the time of welding, a valid certification for the process and position to be used in production from the AWS. The welder shall show the Resident their credentials upon request.
- E. The Contractor shall only use electrodes that are on the Department's Qualified Products List for Welding Electrodes or shall submit alternative electrodes for review and approval by the Fabrication Engineer. Electrodes used shall match those approved for use in the WPS.
- F. Welding shall not be done: When the temperature in the immediate vicinity of the weld is below 0°F; when the surfaces are damp or exposed to rain, snow, or high wind; or when the welders or welding operators are exposed to inclement conditions.
- G. The pile shall be preheated to and maintained at 150°F minimum, within 6 inches from the joint during welding.
- H. Power sources for welders shall have meters indicating amperage/voltage that have been calibrated within 1 year at the time of welding.
- I. The Contractor shall provide the Department with notice, a minimum of, 7 Days prior to the start of any welding.
- J. The Contractor shall provide a QC Inspector to perform QC for the welds in accordance with the AWS D1.1 welding code. The QC Inspector shall be an AWS Certified Welding Inspector (CWI) in conformance with the requirements of AWS QC1, Standard for AWS Certifications of Welding Inspectors. The Contractor may submit, in lieu of a CWI, an alternative QC Inspector with documented training and experience in metals fabrication, inspection, and testing for approval by the Fabrication Engineer. The QC Inspector shall be someone other than the welder performing the welds to be inspected.
- K. The QC Inspector shall inspect all production stages of the welded splice to ensure that workmanship and materials meet the requirements of the AWS D1.1 welding code and the Contract. The QC Inspector shall submit a signed record of all weld inspection documentation to the Resident after welding is completed.

Record of weld inspection shall include, but not be limited to, the following:

- 1. Name of QC Inspector
- 2. Project WIN and Location
- 3. Date
- 4. Weather conditions
- 5. Type, size, length, and location of welds.

6. Confirmation of appropriate equipment and materials used, including proper handling of welding electrodes.
7. Confirmation that welder has approved WPS onsite, and welding is performed in accordance with approved WPS.
8. Confirmation that welder is qualified to perform work per approved WPS. Include name and certifications of qualified welder who performed the work.
9. Confirm that 100% visual testing, in accordance with AWS D1.1 Table 8.1, has been conducted and any subsequent repairs are made prior to non-destructive testing (NDT).
10. Document NDT testing including name of NDT technician, NDT personnel qualifications, type and extent of NDT testing performed, and include NDT testing reports provided by the NDT testing technician.

L. Piles shall not be driven until all pile welding has been inspected and accepted by the Department.

#### **501.0471 Specific Requirements for Splicing H-Beam Piles**

- A. Damaged material shall be removed from the end of the driven pile. Lifting holes shall be repaired or trimmed off. The ends of both pieces to be spliced shall be cut off square with the longitudinal axis of the pile and beveled per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.
- B. The Contractor shall use an approved mechanical splicer or a full penetration butt weld for the entire cross section of the pile. Mechanical splicers shall be installed per the manufacturer's recommendations, except that the flanges shall be welded using a complete joint penetration weld, per the AWS D1.1 welding code.
- C. In addition to the 100% visual testing (VT) performed by the QC Inspector, the Contractor shall perform NDT on the first two welded splices of the same type/size. The welds shall be radiographically (RT) or ultrasonically (UT) tested for their full length for acceptance per Table 8.2 of AWS D1.1. If both RT/UT-tested splices are determined to be acceptable, no further NDT will be required. If either of the first two RT/UT-tested splices contain defects warranting rejection, RT/UT testing of splices shall continue until two consecutive splices are found to be acceptable.
- D. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

#### **501.0472 Specific Requirements for Splicing Steel Pipe Piles and Steel Casings**

- A. Damaged material shall be removed from the end of the driven pile. Lifting holes shall be trimmed off. The ends of both pieces to be spliced shall be cut off square with the

longitudinal axis of the pile and beveled per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.

B. Splices shall be welded using an AWS D1.1 Complete Joint Penetration butt weld with a backer ring.

C. In addition to the 100% VT performed by the QC Inspector, the Contractor shall perform NDT on the first two welded splices of the same type/size. The welds shall be RT or UT tested for their full length for acceptance per Table 8.2 of AWS D1.1. If both RT/UT-tested splices are determined to be acceptable, no further NDT will be required. If either of the first two RT/UT-tested splices contain defects warranting rejection, RT/UT testing of splices shall continue until two consecutive splices are found to be acceptable.

D. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

501.048 Prefabricated Pile Tips Amend this section by deleting it in its entirety and replacing it with:

Welding of pile tips shall be done in accordance with the following:

A. Welding shall be done in accordance with the requirements of the AWS D1.1 welding code.

B. Qualify welders in accordance with the most recent edition of the AWS D1.5 code.

C. Submit a written WPS for each tip to be included as part of the QCP. The WPSs shall be provided to the Fabrication Engineer for review and approval prior to beginning welding. Provide copies of the approved the WPS to the welder and Resident prior to beginning welding. Welding performed without an approved WPS and approved QCP will be considered Unacceptable Work.

D. Provide a list of qualified welders with copies of their AWS certifications to the Fabrication Engineer for review prior to beginning welding. Welders shall have in their possession, at the time of welding, a valid certification for the process and position to be used in production from the AWS or other organization acceptable to the Resident. The welder shall show the Resident their credentials upon request.

E. The Contractor shall only use electrodes that are on the Department's Qualified Products List for Welding Electrodes or shall submit alternative electrodes for review and approval by the Fabrication Engineer. Electrodes used shall match those approved for use in the WPS.

F. Pile tips shall be approved by the Resident.

G. Welding shall not be done: When the temperature in the immediate vicinity of the weld is below 0°F; when the surfaces are damp or exposed to rain, snow, or high wind; or when the welders or welding operators are exposed to inclement conditions.

H. The pile shall be preheated to and maintained at 150°F minimum within 6 inches from the joint during welding.

I. Power sources for welders shall have meters indicating amperage/voltage that have been calibrated within 1 year at the time of welding.

J. Pile tips may be welded to the piles by the pile supplier upon approval by the Department. Approval is contingent upon submission of the following: A welding QC Plan; proof that the proposed welder(s) is certified per AWS D1.5; and an AWS D1.1 WPS, with base metal preheated to a minimum of 150°F. The Contractor shall provide notice a minimum of 14 Days prior to the start of any welding by the pile supplier. At a minimum, welds shall be 100% visually inspected by the pile supplier's QC representative.

K. The Contractor shall provide a QC Inspector to perform QC for the welds in accordance with the AWS D1.1 welding code. The QC Inspector shall be an CWI in conformance with the requirements of AWS QC1, Standard for AWS Certifications of Welding Inspectors. The Contractor may submit, in lieu of a CWI, an alternative QC Inspector with documented training and experience in metals fabrication, inspection, and testing for approval by the Fabrication Engineer. The QC Inspector shall be someone other than the welder performing the welds to be inspected.

L. The QC Inspector shall inspect all production stages of the welded splice to ensure that workmanship and materials meet the requirements of the AWS D1.1 welding code and the Contract. The QC Inspector shall submit a signed record of all weld inspection documentation to the Resident after welding is completed.

**M.**

**Record of weld inspection shall include, but not be limited to, the following:**

- 1. Name of QC Inspector**
- 2. Project WIN and Location**
- 3. Date**
- 4. Weather conditions**
- 5. Type, size, length, and location of welds.**
- 6. Confirmation of appropriate equipment and materials used, including proper handling of welding electrodes.**
- 7. Confirmation that welder has approved WPS onsite, and welding is performed in accordance with approved WPS.**
- 8. Confirmation that welder is qualified to perform work per approved WPS. Include name and certifications of qualified welder who performed the work.**
- 9. Confirm that 100% VT, in accordance with AWS D1.1 Table 8.1, has been conducted and any subsequent repairs are made prior to NDT.**
- 10. Document NDT testing including name of NDT technician, NDT personnel qualifications, type and extent of NDT testing performed, and include NDT testing reports provided by the NDT testing technician.**

N. The Contractor shall provide notice a minimum of 7 Days prior to the start of any field welding.

- O. Piles shall not be driven until all pile welding has been inspected and accepted by the Department.

**501.0481 Specific Requirements for Installing H-Beam Pile Tips**

- A. Damaged material shall be removed from the end of the driven pile, as applicable. Lifting holes shall be trimmed off. The end of the pile to which the tip is to be attached shall be cut off square with the longitudinal axis of the pile and prepared per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.
- B. Regarding weld size, prefabricated pile tips shall be attached to H-beam piles with 5/16-inch groove welds along each flange, or as recommended by the manufacturer of the pile tips, whichever weld size is larger.
- C. The QC Inspector shall, at a minimum, perform 100% VT on each pile tip weld.
- D. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

**501.0482 Specific Requirements for Installing Steel Pipe Pile Tips**

- A. Damaged material shall be removed from the end of the driven pile, as applicable. Lifting holes shall be trimmed off. The end of the pile to which the tip is to be attached shall be cut off square with the longitudinal axis of the pile and prepared per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.
- B. Unless otherwise shown on the Plans, steel pipe piles shall have pointed cast steel pile tips.
- C. Regarding weld size, prefabricated pile tips shall be attached to steel pipe piles with a continuous 5/16-inch groove weld along the full perimeter of the pile, or as recommended by the manufacturer of the pile tips, whichever weld size is larger.
- D. The QC Inspector shall, at a minimum, perform 100% VT on each pile tip weld.
- E. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

501.05 Method of Measurement

c. Piles in Place Revise the third paragraph by replacing the “10” with “20” so that it reads:

Unused pile cutoffs **20** feet or more in length, except those required to accommodate the Contractor’s construction method, as discussed herein, will remain the property of the Department and will be stored at a bridge maintenance yard nearest the project. Hauling and unloading of piles will be done by the Contractor or by the Department, depending upon availability of services.

SECTION 502  
STRUCTURAL CONCRETE

502.03 Materials Amend this section by adding the following to the list of materials:

Combined Aggregate Grading for Concrete 703.03

502.07 Mixing and Delivery Remove the last sentence in Paragraph A that starts with “With prior approval...” and replace with the following:

**“An approved hydration stabilizing admixture may be used to increase the discharge time. Justification for the need for a hydration stabilizing admixture shall be provided in the QC Plan. When a hydration stabilizing admixture is used, the manufacturer, dosage rate and discharge time, from the time cement is added to the aggregate, shall be documented in the approved QC Plan. The proposed discharge time(s) shall be based on the manufacturer’s written recommendations, the anticipated concrete temperatures and anticipated ambient conditions at the time of placement(s). Discharge time(s) shall be adjusted when conditions change or are not as anticipated as outlined in the approved QC Plan. The discharge time(s) approved by the Department shall be subject to change at any time, and discharge of concrete into the permanent work shall cease immediately if the concrete is determined to have attained Accelerated Hydration Gain. Accelerated Hydration Gain being the condition where the fresh concrete has hydrated to the point where the workability and finishability is detrimental to the quality of the final product. Determination of when concrete has attained Accelerated Hydration Gain shall be made by the Contractor’s Quality Control Technician(s) and shall be based on parameters proposed by the Contractor in the QC Plan, such as, but not limited to, loss of slump, plasticity, or workability, an increase in concrete temperature, or a change in the percentage of entrained air.”**

502.09 Forms and Falsework Amend this subsection by adding the subsection title **“502.10 Placing Concrete”** after section “D” Removal of Forms and False work” and after the paragraph beginning with “2. Forms and False work, including blocking...”. So that a new subsection starts and reads:

**“502.10 Placing Concrete**

**A. General Concrete shall not be placed until forms ....”**

502.1701 Quality Control, Method A and B Revise this Section so that the first paragraph and the first sentence of the second paragraph read:

**“502.17 Quality Control** The Contractor shall control the quality of the concrete through testing, inspection, and practices which shall be described in the QCP, sufficient to assure a product meeting the Contract requirements. The QCP shall meet the requirements of Section 106, Quality, and this specification. No work under this item shall proceed until the QCP is submitted to and approved by the Department. Failure to comply with the approved QCP will result in work suspension and pay reductions as outlined in Section 106.4.6. The Quality Control Plan Value shall be the total bid value for all cast-in-place items covered by the QCP, using the P value listed in Special Provision 502. If no P value is listed, a value of \$350, or bid value per cubic yard, whichever is less, shall be used.

**502.1701 Quality Control, Method A and B** The QCP shall address all elements that affect the quality of the structural concrete including, but not limited to, the following: “

Under the list with the heading, “The QCP shall address all elements that affect the quality of the structural concrete including, but not limited to, the following:”:

Replace “F” to read: “**Mix and Transportation, including Time from Batching to Completion of Delivery, as well as manufacturer, product name, proposed dosage(s) and discharge time(s) if a hydration stabilizing admixture is used.**”

Replace “H” to read: “**Process QC Testing, including monitoring for attainment of Accelerated Hydration Gain when a hydration stabilizing admixture is used.**”

Revise this section by replacing the paragraph before Table 4 that starts out “The Contractor shall maintain...” to read:

**“The Contractor shall maintain records of all QC tests and calculations. All QC test data shall be signed by the person who performed the test. The representative gradation test results shall be reported to the Department before the placement they represent. This initial representative gradation test shall be sampled a maximum of 30 days prior to the production day. The Contractor or supplier shall retain split samples of the most recent QC gradations for possible testing by the Department. In addition, the Department will sample the aggregates at the plant monthly to determine compliance with 703.03 Combined Aggregate Grading for Concrete. The Combined Aggregate Grading will be calculated by mathematically blending the individual aggregate gradations using the batch percentages from the approved mix design. If the Department’s gradation tests determine that the aggregate does not meet the specified gradation limits, the current procedure mentioned in MaineDOT PCC Policies and Procedures Manual shall be followed. The compressive strength test results shall be reported to the Department by 10:00 A.M. of the first working day following the test. The Contractor shall record all onsite QC test data and calculations at the time of the placement and present this information, on a form acceptable to the Department, to the Department by 10:00 A.M. of the first working day following the concrete placement. Batch tickets shall be representative of that day’s total moisture in aggregate value, QC test data for total moisture in aggregate shall be provided to the**

**Department by 10:00 A.M. of the first working day following the concrete placement. All Method A and B QC testing shall meet the minimum requirements found in Table 4.”**

Section 502.1701, Quality Control, Revise Table 4 of this Subsection by removing it in its entirety and replacing it with:

**TABLE 4  
METHOD A & B MINIMUM QUALITY CONTROL TESTING REQUIREMENTS\***

| TEST                         | TEST METHOD        | SAMPLING LOCATION | FREQUENCY                                                                                                                    |
|------------------------------|--------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------|
| Gradation                    | AASHTO T 27 & T 11 | Stockpile         | One representative set per proposed grading before production<br>One set every 100 yd <sup>3</sup><br>(Min. 1 set per month) |
| Organic Impurities           | AASHTO T 21        | Stockpile         | Once per fine aggregate per year**                                                                                           |
| % Absorption                 | AASHTO T 84 & T 85 | Stockpile         | Once per aggregate per year                                                                                                  |
| Specific Gravity             | AASHTO T 84 & T 85 | Stockpile         | Once per aggregate per year                                                                                                  |
| Total Moisture in Aggregate  | AASHTO T 255       | Stockpile         | One set per day's production                                                                                                 |
| Free Water and Aggregate Wt. | N/A                |                   | One per day's production                                                                                                     |
| % Entrained Air              | AASHTO T 152       | On Project        | On first two loads and every third load thereafter provided consistent results are achieved                                  |
| Compressive Strength         | AASHTO T 22        | On Project        | One set per subplot                                                                                                          |
| Compressive Strength         | AASHTO T 22        | On Project        | One set per subplot                                                                                                          |

\*Additional QC testing will be required any time a process change occurs during a placement, including changes in type or dosage of admixture. Additional testing shall include, but is not limited to, entrained air testing.

\*\*If the color produced is a laboratory designation Plate III, then the fine aggregate shall be tested once per month

502.1702 Quality Control, Method C Remove this sub section and replace it with:

**“The Contractor shall submit a QCP listing the mix design(s) to be used, the name and location of the production facility, a brief description of the placement and curing process and the name and qualifications of any QCT to be used. When a hydration stabilizing admixture is proposed for use, the manufacturer, product name, dosage rate and discharge time, from the time cement is added to the aggregate, shall be included, as well as procedures for monitoring attainment of Accelerated Hydration Gain. A QCT will be required. The Contractor shall provide a Certificate of Compliance for each truckload of concrete to the Department at the time of the load placement.”**

502.18, Method of Measurement, Revise Subsection ‘F’ by removing the word ‘transverse’ so that it reads: **“Saw cut grooving of concrete wearing surfaces, complete and accepted, will be measured for payment as one lump sum.”**

502.19, Basis of Payment, Revise the third paragraph by removing the word ‘transverse’ so that it reads: **“Saw cut grooving of concrete wearing surfaces will be paid for at the Contract Lump Sum Price, which shall be payment for furnishing all materials, labor, and equipment, including depth gauges and all incidentals, to satisfactorily complete the work.”**  
(Also see 535.24 and 535.25 for related changes)

## SECTION 503 REINFORCING STEEL

Section 503.07 Splicing Revise this section by removing the table and following footnote and replacing them with:

| Minimum Lap Splice Length (inches) |          |    |    |    |    |    |    |     |     |
|------------------------------------|----------|----|----|----|----|----|----|-----|-----|
| Bar Type                           | Bar Size |    |    |    |    |    |    |     |     |
|                                    | #3       | #4 | #5 | #6 | #7 | #8 | #9 | #10 | #11 |
| Plain or Galvanized                | 16       | 20 | 24 | 29 | 38 | 47 | 59 | 72  | 85  |
| Epoxy or Dual Coated               | 17       | 24 | 36 | 43 | 56 | 71 | 88 | 107 | 128 |
| Stainless                          | 19       | 24 | 30 | 36 | 47 | 59 | 73 | 89  | 107 |
| Low-carbon Chromium                | 24       | 32 | 39 | 47 | 63 | 78 | 97 | 119 | 142 |

**“The minimum lap splice lengths in the table above are based on the parameters below. When any of these parameters are altered, appropriate minimum lap splice lengths will be as shown on the Plans.**

- Normal weight concrete
- Minimum 28-day concrete compressive strength from 4,000 psi to 10,000 psi

- **Class B tension lap splice**
- **Minimum center-to-center spacing between bars of 6 inches**
- **Minimum clear cover of 2 inches**
- **Nominal reinforcing steel yield strengths**
  - **Low-carbon Chromium = 100 ksi**
  - **Stainless = 75 ksi**
  - **All others = 60 ksi**
- **Reinforcement with yield strengths greater than 75 ksi shall have beam transverse reinforcement and column ties provided over the required lap splice length in accordance with the current edition of the AASHTO LRFD Bridge Design Specifications**

**When lap splices are placed horizontally in an element where the concrete depth below the splice will be 12 inches, or more, the indicated lap splice lengths shall be multiplied by a factor of 1.3.”**

Amend the Paragraph starting with Welded Splices may be made...” by adding to the last sentence beginning so that it reads **“The Contractor shall submit complete details of their proposed method of making welded splices for the Resident's approval at least 10 days prior to use.”**

504.12 Protective Coatings Revise this subsection by removing the paragraph beginning with “When galvanizing is specified” and replacing it with:

**“When galvanizing is specified, clean the steel in accordance with SSPC-SP 6 prior to galvanizing. Galvanize in accordance with AASHTO M 111 (ASTM A123). Galvanize fasteners in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I. Galvanized nuts shall be lubricated with a water-soluble lubricant containing a dye that contrasts with the color of the galvanizing.”**

## SECTION 506

### SHOP APPLIED PROTECTIVE COATING – STEEL

506.10 Description Revise this subsection by removing the entire paragraph in its entirety and replacing it with:

**“This work shall consist of surface preparation and application of coating systems in accordance with the Plans and this Specification. The color of structural steel painted in its entirety shall comply with SAE AMS-STD-595 – Colors Used in Government Procurement Color No. 14272 (Green), unless otherwise specified in the Contract. The color of partially painted weathering steel shall comply with SAE AMS-STD-595 – Colors Used in Government Procurement Color No. 30045 (Brown), unless otherwise specified in the Contract. All other coating colors shall be as specified in the Contract.”**

506.13 Surface Preparation Amend this section by adding this paragraph to the end:

**“Steel shall meet the requirements of SSPC SP8 Pickling prior to being immersed in the zinc tanks. Verification of the surface preparation shall be included in the QC documentation.”**

## SECTION 518 STRUCTURAL CONCRETE REPAIR

**518.02 Repair Materials** Replace the paragraph beginning with “Where the depth of placement...” with the following:

**“Where the depth of placement is equal to or greater than 1 inch, the Contractor may use concrete as the repair material. When concrete is used, the coarse aggregate shall conform to the requirements of the table below and Standard Specification Section 703.02, Coarse Aggregate for Concrete, or 703.03, Combined Aggregate Grading for Concrete.”**

Remove the second table with the heading, “Sieve Designation Percent by Weight Passing a Square Mesh Sieve”

## SECTION 523 BEARINGS

**523.051 Protective Coating** Revise this subsection by removing the paragraph beginning with “Anchor rods shall be galvanized...” and replacing with:

**“Anchor rods shall be galvanized. When anchor rods are designated to secure bare unpainted steel or painted steel, a dielectric coating (epoxy or bituminous type coatings are acceptable) shall be applied to the anchor rod and/or adjacent steel to prevent contact between galvanized surfaces and painted or unpainted steel.”**

**523.22 Fabrication** Amend this subsection by adding the following: **“Elastomeric Bearings shall be fabricated in accordance with AASHTO M251.”**

## SECTION 526 CONCRETE BARRIER

Amend this section by deleting it in its entirety and replacing it with:

**“526.01 Description This work shall consist of the furnishing, constructing, erecting, setting, resetting, and removal of concrete barrier and associated elements in accordance with these specifications, the Standard Details, and the lines and grades shown on the Plans or established by the Resident.**

**The types of concrete barrier are designated as follows:**

**Portable Concrete Barrier Type I** Double faced removable barrier in accordance with the Standard Details.

**Permanent Concrete Barrier Type II** Double faced barrier as shown on the Plans.

**Permanent Concrete Barrier Type IIIa** Single faced barrier 32 inches high in accordance with the Standard Details or as shown on the Plans.

**Permanent Concrete Barrier Type IIIb** Single faced barrier 42 inches high in accordance with the Standard Details or as shown on the Plans.

**Permanent Concrete Transition Barrier** Barrier of various heights joining steel bridge rail to steel guardrail in accordance with the Standard Details or as shown on the Plans.

**Permanent Texas Classic Rail Barrier** Traffic rail or sidewalk rail, in accordance with the Standard Details or as shown on the Plans.

#### **526.02 Materials**

a. **Concrete** Concrete for barriers, both permanent and portable, shall have a design strength of 5,000 psi.

For cast-in-place barrier: The concrete shall be Class LP, in accordance with Standard Specification Section 502, Structural Concrete.

For precast barrier: The concrete shall meet the requirements of Standard Specification 712.061, Structural Precast Concrete Units, except that the stripping strength for precast barriers is 4,000 psi.

b. **Reinforcing Steel** Reinforcing steel shall meet the requirements of Section 503, Reinforcing Steel.

c. **Structural Steel** Plates and barrier connections shall meet the requirements specified in Standard Specification 504 - Structural Steel and shall be hot dip galvanized after fabrication in accordance with Standard Specification 506, Shop Applied Protective Coating – Steel

d. **Bolts** Bolts shall meet the requirements specified in Section 713.02, High Strength Bolts.

e. **Connecting Pins for Portable Concrete Barrier** Portable concrete barriers must be connected using a 1- inch diameter pin. The connecting pin must be smooth, not deformed, i.e., reinforcing bar may not be used, and shall meet the strength requirements of ASTM A449 steel. Materials with greater strength may be used with the approval of the Department.

**f. Anchor Pins for Portable Concrete Barrier** Anchoring to concrete or asphalt will be required when specified on the Plans. When required, portable concrete barriers must be anchored using a 1 ½ - inch diameter anchor pin. The anchor pin must be smooth, not deformed, i.e., reinforcing bar may not be used, and shall meet the strength requirements of ASTM A36 steel. Materials with greater strength may be used with the approval of the Department.

**g. Device Crashworthiness** MaineDOT is transitioning to MASH2016 criteria for Portable Concrete Barrier on the following schedule:

New Portable Concrete Barrier shall be crash tested and/or evaluated to MASH2016 criteria.

Current Portable Concrete Barrier in useful serviceable condition that is successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.

Other current Portable Concrete Barrier that is deemed acceptable by the Department may be utilized on projects off the National Highway System through December 31, 2024.

#### **526.03 Construction Requirements**

Cast-in-place barriers shall be fabricated in accordance with Standard Specification Section 502, Structural Concrete. Precast barriers shall be fabricated in accordance with Standard Specification 534, Precast Structural Concrete.

Concrete finish for permanent barrier shall be rubbed as defined in Standard Specification Section 502, Structural Concrete, 502.13 D2 or an approved equal.

Portable concrete barrier shall be generally free from fins and porous areas and shall present a neat and uniform appearance.

Permanent barrier shall have a protective coating applied in accordance with Standard Specification Section 515, Protective Coating for Concrete Surfaces.

Reflective delineators for concrete median barrier shall meet the requirements of Special Provision 645, Highway Signing.

Preformed Joint Filler shall meet the requirements specified in Subsection 705.01, Preformed Expansion Joint Filler.

Permissible dimensional tolerances for all concrete barriers shall be as follows:

a. Cross-sectional dimensions shall not vary from design dimensions by more than ¼ inch. The vertical centerline shall not be out of plumb by more than ¼ inch.

b. Longitudinal dimensions shall not vary from the design dimensions by more than  $\frac{1}{4}$  inch per 10 feet of barrier section and shall not exceed  $\frac{3}{4}$  inches per section.

c. Location of anchoring holes shall not vary by more than  $\frac{1}{2}$  inch from the dimensions shown in the concrete barrier details on the Plans.

d. Surface straightness shall not vary more than  $\frac{1}{4}$  inch under a 10-foot straightedge.

e. The barrier shall have no significant cracking. Significant cracking is defined as fractures or cracks passing through the section, or any continuous crack extending for a length of 12 inches or more, regardless of position in the section.

**526.04 Method of Measurement** Permanent Concrete Barrier Type II, IIIa, IIIb, Texas Classic Rail, and Precast Median Barrier will be measured for payment by lump sum, complete in place.

Portable concrete barrier, both anchored and unanchored will be measured for payment by lump sum. Lump sum measurement will include verification of the installation and removal of all portable concrete at the completion of the Contractor's operations.

The Contractor shall replace sections of portable concrete barrier, including anchored barrier damaged by the traveling public when directed by the Resident. Replacement sections will be measured for payment in accordance with Standard Specification 109.7, Equitable Adjustments to Compensation and Time.

Transition barrier will be measured by each, complete in place.

**526.05 Basis of Payment** The accepted quantities of Concrete Barrier Type II, IIIa, IIIb, Texas Classic Rail, and Precast Median Barrier will be paid for at the Contract lump sum price for the type specified, complete in place.

The accepted quantities of Portable Concrete Barrier Type I, both anchored and unanchored will be paid for at the Contract lump sum price. Such payment shall be full compensation for furnishing all materials, assembling, moving, resetting, transporting, temporarily storing, removing barrier, furnishing new parts as necessary, and all incidentals necessary to complete the work.

Portable barrier shall become the property of the Contractor upon completion of the use of the barrier on the project and shall be removed from the project site by the Contractor.

Transition barrier will be paid for at the Contract price each, complete in place.

The accepted quantity of all types of concrete barrier, whether portable or permanent, will be paid for at the lump sum or per each price, as applicable, which payment shall be full compensation for all materials, including reinforcing steel, protective coating, reflective

**delineators, steel plates and hardware, equipment, labor and incidentals required, as necessary, to complete the work.**

**Payment will be made under:**

|         | <u><b>Pay Item</b></u>                            | <u><b>Pay Unit</b></u> |
|---------|---------------------------------------------------|------------------------|
| 526.301 | <b>Portable Concrete Barrier, Type I</b>          | <b>Lump Sum</b>        |
| 526.304 | <b>Portable Concrete Barrier, Anchored Type I</b> | <b>Lump Sum</b>        |
| 526.312 | <b>Permanent Concrete Barrier Type II</b>         | <b>Lump Sum</b>        |
| 526.321 | <b>Permanent Concrete Barrier Type IIIa</b>       | <b>Lump Sum</b>        |
| 526.323 | <b>Texas Classic Rail</b>                         | <b>Lump Sum</b>        |
| 526.331 | <b>Permanent Concrete Barrier Type IIIb</b>       | <b>Lump Sum</b>        |
| 526.34  | <b>Permanent Concrete Transition Barrier</b>      | <b>Each</b>            |
| 526.502 | <b>Precast Concrete Median Barrier</b>            | <b>Lump Sum”</b>       |

## **SECTION 527** **ENERGY ABSORBING UNIT**

**527.02 Materials** Amend this section by deleting it in its entirety and replacing it with:

**“MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:**

**Portable Crash Cushions will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 3 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.**

**Work Zone Crash Cushions shall be selected from the Department’s Qualified Products List of Crash Cushions/Impact Attenuators or approved equal.”**

## **SECTION 535** **PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE**

**535.02 Materials** Replace the description of “Coarse Aggregate for Concrete (Class A, AA, or Latex) in its entirety with: **“Coarse Aggregate for Concrete (Class A, AA, or SP-1-7)”**

**535.22 Tolerances** Amend this section by deleting it in its entirety and replacing it with:  
**“Product dimensional tolerances shall be in conformance with the latest edition of PCI MNL-135, Tolerance Manual for Precast and Prestressed Concrete Construction, as applicable to the particular product (e.g., slab, I-girder, box beam), the Plans, and this Specification. Use Box**

**Beam fabrication tolerances for voided or solid slab beams and use Double Tee tolerances for NEXT beams. In case of dispute, the Fabrication Engineer shall determine the allowable tolerance.”**

535.24 Installation of Slabs, Beams, and Girders Revise the 5<sup>th</sup> paragraph by replacing “6.0 and 9.0” to “5.0 and 8.0” so it reads: **“Ready mixed grout shall achieve a design compressive strength of 6,000 psi at 28 days, have an entrained air content of between 5.0 and 8.0 percent, be non-shrink, flowable, and contain a non-shrink additive listed on the Department QPL for expansive cements.”**

535.25, Installation of Precast/Prestressed Deck Panels Revise the 2<sup>nd</sup> paragraph by replacing “6.0 and 9.0” to “5.0 and 8.0” so it reads: **“Ready mixed grout shall achieve a design compressive strength of 6,000 psi at 28 days, have an entrained air content of between 5.0 and 8.0 percent, be non-shrink, flowable, and contain a non-shrink additive listed on the Department QPL for expansive cements.”**

## SECTION 606 GUARDRAIL

Amend this section by replacing it with the following:

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. Guardrail is designated as:

31” W-Beam Guardrail - Mid-Way Splice

Galvanized steel w-beam, 8” wood or composite offset blocks, galvanized steel posts

Thrie Beam

Galvanized steel thrie beam, 8” wood or composite offset blocks, galvanized steel posts

Median guardrail shall consist of two beams of the above types, mounted on single posts.

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 end post 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, 8 ft long, 2 ½ lb/ft minimum and have 3/8-inch round holes, 1-inch center to center for a minimum distance of 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 guardrail terminal end point and tangent point, both at the leading and trailing ends of each run of guardrail. The marker's flexible posts shall be gray 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 guardrail terminal is not flared, markers will only be required at the terminal end point. 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 Department's Qualified Products List of Delineators. The marker shall be gray, flexible, durable, and of a non-discoloring material to which 3-inch by 9-inch reflectors shall be applied, and capable of recovering from repeated impacts and meeting MASH 16 requirements. 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 reflectors shall be mounted on all "w" beam guardrail and shall be either the "butterfly" type or linear delineation system panels. "Butterfly" or linear delineation panels shall be installed at approximately 62.5 foot intervals on tangents (after every tenth post) and 31.25 feet on curves (after every fifth post), and shall be centered on the guardrail beam. On Divided highways, the left-hand delineators shall be yellow and the right-hand delineators shall be silver/ white. On two-way directional highways, the right-hand side will have silver / white reflectors and no reflectorized delineator used on the left. Delineators shall have reflective sheeting that meets or exceeds the requirements of Section 719.01.

“Butterfly” reflectors shall be fabricated from high-impact, ultraviolet & weather resistant thermoplastic. Aluminum, galvanized metal or other materials shall not be used. Reflective sheeting will be applied to only one side of the delineator facing the direction of traffic and shall be centered vertically on the guardrail beam as shown in the Standard Detail 606(7).

Linear delineation system panels shall be 1.5 inches wide by approximately 11 inches nominal length, with a minimum of 5 raised lateral ridges spaced at approximately 2.25 inches. The height of each ridge shall be 0.34 inches with a 45 degree profile and a 0.28 inches radius at the top. Sheeting shall be laminated to thin gauge aluminum with a pre-applied adhesive tape on the back. Panels shall not be installed over seams or bolt heads and shall be centered horizontally on the guardrail beam; linear delineation panels shall be attached to only one guardrail beam. The guardrail beam surface shall be cleaned and prepared according to the manufacturer’s instructions. Air temperature and guardrail surface temperature must be a minimum of 50 degrees F (10 C) with rising temperature at the time of installation.

Exact locations of the either the “butterfly” type or the linear delineation panels shall be approved by the Resident prior to installation.

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 Qualified Products List and shall be MASH 16 tested and approved.

Flared and Tangent w-beam guardrail terminals and guardrail offset blocks shall be from the Department’s Qualified Products List. Flared terminals shall be installed with a 4 ft offset as shown in the Manufacturer’s installation instructions.

Anchorage assemblies used to anchor trailing ends, radius guardrail, or other ends not exposed to traffic 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, Drawing SEW02a.

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 ½ inch. 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 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. When connected to radius rail, measurement will be to the end of the last tangent beam.

Guardrail terminal, reflectorized flexible guardrail marker, terminal end, anchorage assembly, 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 paid under force account unless otherwise indicated in the Bid Documents.

Reflectorized beam guardrail reflectors ("butterfly" type or linear delineation system panels) when identified by pay item, will be measured for payment by each.

606.09 Basis of Payment The accepted quantities of guardrail will be paid for at the contract unit price per 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. Reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be paid for at the contract unit price each for the kind specified complete in place.

Guardrail terminals 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. Pay limits for a flared terminal will be 37.5 feet. Pay limits for a tangent terminal will be 50 feet. Each guardrail terminal will be clearly marked with the Manufacturer's 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 109.7.5 – Force Account. 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 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 terminals 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 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 linear foot and will be full compensation for adjusting to grade. Payment shall also include adjusting guardrail terminals where required.

Modify guardrail will be paid for at the contract unit price per linear foot 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 guardrail terminals where required.

Remove and Reset guardrail will be paid for at the contract unit price per linear foot 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 guardrail terminals when required.

Remove, Modify, and Reset guardrail will be paid for at the contract unit price per foot 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 and vertical curb, and any other necessary materials and labor, including the bridge connection as stated in the previous paragraph.

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.

Reflectorized beam guardrail reflectors ( "butterfly" type and the linear delineation panels ) will not be paid for directly but will be considered incidental to all new guardrail items. The Contractor shall

furnish and install either the “butterfly” type or linear delineation panels, at its discretion, for new guardrail items.

Reflectorized beam guardrail reflectors ( either “butterfly” type or linear delineation system panels) will be paid for under the applicable pay items for installation in conjunction with Adjust, Modify, Remove and Reset, Remove Modify and Reset guardrail items. The accepted quantity of “butterfly” type or linear delineation system panels will be paid for at the contract unit price each for all work and materials furnished to install, complete in place, including all incidentals necessary to complete the work.

Payment will be made under:

| <u>Pay Item</u>                                                     | <u>Pay Unit</u> |
|---------------------------------------------------------------------|-----------------|
| 606.1301 31” W-Beam Guardrail - Mid-Way Splice – Single Faced       | Linear Foot     |
| 606.1302 31” W-Beam Guardrail - Mid-Way Splice – Double Faced       | Linear Foot     |
| 606.1303 31” W-Beam Guardrail - Mid-Way Splice, 15’ Radius and Less | Linear Foot     |
| 606.1304 31” W-Beam Guardrail - Mid-Way Splice, Over 15’ Radius     | Linear Foot     |
| 606.1305 31” W-Beam Guardrail - Mid-Way Splice Flared Terminal      | Each            |
| 606.1306 31” W-Beam Guardrail - Mid-Way Splice Tangent Terminal     | Each            |
| 606.1307 Bridge Transition (Asymmetrical) – Type IA                 | Each            |
| 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                                              | Linear Foot     |
| 606.25 Terminal Connector                                           | Each            |
| 606.257 Terminal Connector - Thrie Beam                             | Each            |
| 606.259 Anchorage Assembly                                          | 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            |
| 606.352 Reflectorized Beam Guardrail Delineators (“Butterfly” type) | Each            |
| 606.3521 Linear Delineation System Panel                            | 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                                           | Linear Foot     |
| 606.362 Guardrail, Adjust                                           | Linear Foot     |
| 606.365 Guardrail, Remove, Modify, and Reset                        | Linear Foot     |
| 606.366 Guardrail, Remove and Reset                                 | Linear Foot     |
| 606.367 Replace Unusable Existing Guardrail Posts                   | Each            |
| 606.3671 Replace Unusable Offset Blocks                             | 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        |
| 606.568 | Guardrail, Modify - Double Rail                   | Linear Foot |
| 606.63  | Thrie Beam Rail Beam                              | Linear Foot |
| 606.64  | Guardrail Thrie Beam - Double Rail                | Linear Foot |
| 606.65  | Guardrail Thrie Beam - Single Rail                | Linear Foot |
| 606.66  | Terminal End Thrie Beam                           | Each        |
| 606.70  | Transition Section - Thrie Beam                   | Each        |
| 606.71  | Guardrail Thrie Beam - 15 ft radius and less      | Linear Foot |
| 606.72  | Guardrail Thrie Beam - over 15 ft radius          | Linear Foot |
| 606.73  | Guardrail Thrie Beam - Single Rail Bridge Mounted | Linear Foot |
| 606.74  | Guardrail - Single Rail Bridge Mounted            | Linear Foot |
| 606.753 | Widen Shoulder for Low Volume Guardrail End       | Each        |
| 606.754 | Widen Shoulder for Flared Guardrail Terminal      | Each        |
| 606.78  | Low Volume Guardrail End                          | Each        |
| 606.80  | Buried-in-Slope Guardrail End                     | Each        |

## SECTION 608 SIDEWALKS

Section 608.022 Detectable Warning Materials Standard Revise this section by removing the last sentence of this section beginning with “Concrete...” and replacing it with “**Concrete shall meet the requirements of Section 608.021, Sidewalk Materials, of this specification or may be a prepackaged concrete mix from the Department’s Qualified Products List (QPL).**”

## SECTION 609 CURB

Remove this section in its entirety and replace with the following:

609.01 Description Construct or reset curb, gutter, or combination curb and gutter, paved ditch, and paved flume. The types of curb are designated as follows:

- Type 1 - Stone curbing of quarried granite stone
- Type 2 – Concrete Curbing
- Type 3 - Bituminous curbing
- Type 5 - Stone edging of quarried granite stone

609.02 Materials Except as provided below, the materials used shall meet the requirements of the following Sections of Division 700 - Materials:

|                                              |        |
|----------------------------------------------|--------|
| Portland Cement and Portland Pozzolan Cement | 701.01 |
| Water                                        | 701.02 |
| Air Entraining Chemical Admixture            | 701.03 |
| Fine Aggregate for Concrete                  | 703.01 |

|                                                   |         |
|---------------------------------------------------|---------|
| Coarse Aggregate for Concrete                     | 703.02  |
| Joint Mortar                                      | 705.02  |
| Reinforcing Steel                                 | 709.01  |
| Stone Curbing and Edging                          | 712.04  |
| Epoxy Resin                                       | 712.35  |
| Hot Mix Asphalt Curbing                           | 712.36  |
| Structural Precast Concrete Units (Concrete Curb) | 712.061 |

The Contractor shall submit a concrete mix design for the Portland Cement Concrete to the Resident, for the uses specified below or in accordance with the Contract Documents.

Circular curb, terminal sections and transition sections shall be in reasonably close conformity with the shape and dimensions shown on the Plans and to the applicable material requirements herein for the type of curb specified.

Dowels shall be reinforcing steel deformed bars.

Concrete for Slipform Concrete Curb shall meet the requirements below:

- a. Class A, with the exception that permeability requirements shall be waived.
- b. Entrained air content of Slipform Concrete Curb shall be 4.0% to 7.0%
- c. Concrete temperature, prior to discharge, shall not exceed 90 F.
- d. Proposed mix designs may contain polypropylene fibers.
- e. Partially discharged loads may be retempered with water provided the maximum water to cement ratio is not exceeded.

609.03 Vertical Stone Curb, Terminal Section and Transition Sections and Portland Cement Concrete Curb, Terminal Sections and Transition Sections

a. Installation The curb stone shall be set on a compacted foundation so that the front top arris line conforms to the lines and grades required. The foundation shall be prepared in advance of setting the stone by grading the proper elevation and shaping to conform as closely as possible to the shape of the bottom of the stone. The required spacing between stones shall be assured by the use of an approved spacing device to provide an open joint between stones of at least ¼ inch and no greater than ⅝ inch.

b. Backfilling All remaining spaces under the curb shall be filled with approved material and thoroughly hand tamped so the stones will have a firm uniform bearing on the foundation for the entire length and width. Any remaining excavated areas surrounding the curb shall be filled to the required grade with approved materials. This material shall be placed in layers not exceeding 8 inches in depth, loose measure and thoroughly tamped.

When backfill material infiltrates through the joints between the stones, small amounts of joint mortar or other approved material shall be placed in the back portion of the joint to prevent such infiltrating.

c. Protection The curb shall be protected and kept in good condition. All exposed surfaces smeared or discolored shall be cleaned and restored to a satisfactory condition or the curb stone removed and replaced.

d. Curb Inlets Curb placed adjacent to curb inlets shall be installed with steel dowels cemented into each stone with epoxy grout as shown in the Standard Details.

The epoxy grout shall be used in accordance with the manufacturer's instructions. The grout shall be forced into the hole, after which the dowel shall be coated with grout for one-half its length and inserted into the grout filled hole. The hole shall be completely filled with grout around the dowel. All tools and containers must be clean before using.

The Contractor may elect to substitute concrete to backfill Stone Curbing or Stone Edging at their option. If the concrete backfill option is elected, the Concrete Fill shall meet the requirements of 609.02. The Contractor shall submit a concrete design for the Portland Cement Concrete, with a minimum designated compressive strength of 3000 PSI meeting the requirements of Class S or Class Fill Concrete. The Contractor may elect to choose a Prepackaged Concrete Mix from the Departments Qualified Products list (QPL). Concrete backfill shall be completed in conformance with a Department supplied concrete backfill detail.

#### 609.04 Bituminous Curb

a. Preparation of Base Before placing the curb, the foundation course shall be thoroughly cleaned of all foreign and objectionable material. String or chalk lines shall be positioned on the prepared base to provide guidelines. The foundation shall be uniformly painted with tack coat at a rate of 0.04 to 0.14 gal/yd<sup>2</sup>.

b. Placing The curb shall be placed by an approved power operated extruding type machine using the shape mold called for. A tight bond shall be obtained between the base and the curb. The Resident may permit the placing of curbing by other than mechanical curb placing machines when short sections or sections with short radii are required. The resulting curbing shall conform in all respects to the curbing produced by the machine.

c. When required, the curb shall be painted and coated with glass beads in accordance with Section 627 - Pavement Marking. Curb designated to be painted shall not be sealed with bituminous sealing compound.

d. Acceptance Curb may be accepted or rejected based on appearance concerning texture, alignment, or both. All damaged curb shall be removed and replaced at the Contractor's expense.

e. Polyester fibers shall be uniformly incorporated into the dry mix at a rate of 0.25 percent of the total batch weight. Certification shall be provided from the supplier with each shipment meeting the following requirements:

|                     |                            |
|---------------------|----------------------------|
| Average Length      | 0.25 inches $\pm$ 0.005    |
| Average Diameter    | 0.0008 inches $\pm$ 0.0001 |
| Specific Gravity    | 1.32-1.40                  |
| Melting Temperature | 480 °F Minimum             |

#### 609.05 Slipform Concrete Curb

a. Preparation of Base Before placing the curb, the foundation course shall be thoroughly cleaned of all foreign and objectionable material. The Contractor shall not place Slipform Concrete Curb on a wet or frozen foundation. The foundation (HMA or concrete) may be in a Saturated Surface Dry condition, but no standing water shall be allowed. String or chalk lines shall be positioned on the prepared foundation to provide guidelines. Prior to placing the curb, the foundation shall be uniformly coated with an epoxy resin adhesive that meets the requirements of AASHTO M 235, Type I, II, III, IV or V and has been tested by AASHTO Product Evaluation & Audit Solutions. The Contractor shall submit the epoxy resin adhesive that they propose to utilize with the concrete mix design. The epoxy resin adhesive must be approved prior to placement and used in accordance with manufacturer's recommendations.

b. Placing Concrete shall be placed with an approved Slipform machine that will produce a finished product according to the design specified in the Plans. For cold weather slip forming, the outside temperature must be at least 36°F and rising. The curb shall be placed on a firm, uniform foundation, shall conform to the section profile specified in the Plans, and shall match the appropriate grade. Expansion joints shall be placed in the curb where it meets rigid structures such as but not limited to building foundations, catch basin headers or fire hydrants. Contraction joints will be placed at 10-foot intervals using sawing methods, which shall cut 1 to 3 inches into the concrete. Contraction joints shall be cut between 1 and 7 days after placement of the concrete. Joints shall be constructed perpendicular to the subgrade and match other joints in roadways, sidewalks, or other structures when applicable.

c. Curing and Sealing Proper curing shall be provided using either a combination curing/sealing compound spray that meets ASTM 1315 Type 1-Class A, or a curing compound spray that meets ASTM 309 Type 1-D – Class A. Curing may also be accomplished by the methods specified in Standard Specification Section 502.14, Curing Concrete.

If a combination curing/sealing compound spray is not used, a separate sealing compound from the MaineDOT Qualified Products List for a Type 1c sealer shall be applied after the concrete has cured.

d. Protection Slipform curb must be adequately protected after placement. The concrete shall be allowed to cure for at least 72 hours. During cold weather conditions, when temperatures drop below the required temperature of 36°F after placement, curbing shall be protected by concrete blankets or a combination of plastic sheeting and straw. After any

placement of Slipform curb, regardless of weather conditions, the placed curb shall be adequately protected by traffic control devices as necessary.

e. Marking When required, the curb shall be painted and coated with glass beads in accordance with Section 627 - Pavement Marking. Curb designated to be painted shall not be sealed unless a combination curing/sealing compound is used.

f. Acceptance Curb shall be accepted or rejected based on finish, alignment, entrained air content, and compressive strength. Concrete Quality Control and Acceptance shall be done in accordance with Standard Specification Section 502, Method C. All damaged curb shall be removed and replaced at the Contractor's expense.

609.06 Stone Edging The curb shall be installed, backfilled and protected in accordance with Section 609.03, except as follows:

a. Slope The edging shall be set on a slope as shown on the Plans or as directed.

b. Joints Joints shall be open and not greater than 1½ inch in width.

#### 609.07 Stone Bridge Curb

a. Installation Each stone and the bed upon which it is to be placed shall be cleaned and thoroughly wetted with water before placing the mortar for bedding and setting the stone. The stone shall be set on a fresh bed of joint mortar and well bedded before the mortar has set so that the front top arris line conforms to the line and grade required. Whenever temporary supporting wedges or other devices are used in setting the stones, they shall be removed before the mortar in the bed has become set, and the holes left by them shall be filled with mortar. Concrete behind the stones shall not be placed until the stones have been in place at least two days. Bedding and pointing mortar for joints shall be cured as required under Section 502 - Structural Concrete.

b. Joints Vertical joints shall be ½ inch in width plus or minus ⅛ inch. Whenever possible, the face and top of the joint shall be pointed with joint mortar to a depth of 1½ inch, before the bedding mortar has set. Joints which cannot be so pointed, shall be prepared for pointing by raking them to a depth of 1½ inch before the mortar has set. Joints not pointed at the time the stone is laid shall be thoroughly wetted with clean water and filled with mortar. The mortar shall be well driven into the joint and finished with an approved pointing tool, flush with the pitch line of the stones.

#### 609.08 Resetting Stone or Portland Cement Concrete Curb, Including Terminal Sections and Transitions

The curb shall be installed, backfilled and protected in accordance with Section 609.03, except as follows:

a. Removal of Curbing The Contractor shall carefully remove and store curb specified on the Plans or designated for resetting. Curb damaged or destroyed, because of the

Contractor's operations or because of their failure to store and protect it in a manner that would prevent its loss or damage, shall be replaced with curbing of equal quality at the Contractor's expense.

b. Cutting and Fitting Cutting or fitting necessary in order to install the curbing at the locations directed shall be done by the Contractor.

609.09 Method of Measurement Curb, both new and reset, will be measured by the linear foot along the front face of the curb at the elevation of the finished pavement, complete in place and accepted. Curb inlets at catch basins, including doweling, will not be measured for payment but shall be considered included in the cost of the catch basin. New transition sections and terminal curb will be measured by the unit. Reset transition sections and terminal curb will be included in the measurement for resetting curb.

Concrete Slipform Curb and terminal ends will be measured by the linear foot along the front face of the curb at the elevation of the finished pavement, complete in place and accepted.

609.10 Basis of Payment The accepted quantities of curbing will be paid for at the contract unit price per linear foot for each kind and type of curbing as specified.

Payment for terminal curb shall include only that portion of the curbing modified for installation at ends of curb runs shown in the Standard Details. Curb adjacent to terminal ends shall be paid for at the contract unit price per linear foot for the type of curb installed.

Vertical Curb Type 1 is required to have a radius of 60 feet or less, will be paid for as Vertical Curb Type 1 - Circular.

Curb, Type 5 required to have a radius of 30 feet or less will be paid for as Curb Type 5 - Circular.

There will be no separate payment for concrete fill, mortar, reinforcing steel, anchors, tack coat, drilling for and grouting anchors, pointing and bedding of curbing, and for cutting and fitting, but these will be considered included in the work of the related curb.

Removal of existing curb and necessary excavation for installing new or reset curbing will not be paid for directly but shall be considered to be included in the appropriate new or reset curb pay item. Base and Subbase material will be paid for under Section 304 - Aggregate Base and Subbase Course. Backing up bituminous curb is incidental to the curb items. Loam, as directed, will be paid under 615 – Loam.

Payment will be made under:

|          | <u>Pay Item</u>                          | <u>Pay Unit</u> |
|----------|------------------------------------------|-----------------|
| 609.11   | Vertical Curb Type 1                     | Linear Foot     |
| 609.12   | Vertical Curb Type 1 - Circular          | Linear Foot     |
| 609.13   | Vertical Bridge Curb Type 1              | Linear Foot     |
| 609.131  | Vertical Bridge Curb Type 1A             | Linear Foot     |
| 609.132  | Vertical Bridge Curb Type 1B             | Linear Foot     |
| 609.142  | Vertical Bridge Curb Type 1B - Circular  | Linear Foot     |
| 609.15   | Sloped Curb Type 1                       | Linear Foot     |
| 609.151  | Sloped Curb Type 1 - Circular            | Linear Foot     |
| 609.161  | Concrete Slipform Curb – Vertical Type 2 | Linear Foot     |
| 609.21   | Concrete Slipform Curb Type 2            | Linear Foot     |
| 609.219  | Concrete Slipform Terminal End Type 2    | Linear Foot     |
| 609.23   | Terminal Curb Type 1                     | Each            |
| 609.234  | Terminal Curb Type 1 - 4 foot            | Each            |
| 609.237  | Terminal Curb Type 1 - 7 foot            | Each            |
| 609.2371 | Terminal Curb Type 1 - 7 foot – Circular | Each            |
| 609.238  | Terminal Curb Type 1 - 8 foot            | Each            |
| 609.26   | Curb Transition Section B Type 1         | Each            |
| 609.31   | Curb Type 3                              | Linear Foot     |
| 609.34   | Curb Type 5                              | Linear Foot     |
| 609.35   | Curb-Type 5 - Circular                   | Linear Foot     |
| 609.38   | Reset Curb Type 1                        | Linear Foot     |
| 609.39   | Reset Curb Type 2                        | Linear Foot     |
| 609.40   | Reset Curb Type 5                        | Linear Foot     |

## SECTION 610

### STONE FILL, RIPRAP, STONE BLANKET, AND STONE DITCH PROTECTION

610.02 Materials Amend this subsection by adding the following to the end of the material list:  
**“Stone Ditch Protection 703.29”**

## SECTION 618

### SEEDING

618.08 Mulching Revise this Section so that the third sentence reads: “Mulch for Seeding Method Number 1 shall only be cellulous fiber mulch Section 619.04 **(b)** or straw mulch Section 619.04 **(a)**.”

## SECTION 619 MULCH

619.03 General Amend this Section by adding the following sentence to the end: **“Straw mulch shall be used in all wetland areas.”**

## SECTION 626 FOUNDATIONS, CONDUIT, AND JUNCTION BOXES FOR HIGHWAY SIGNING, LIGHTING, AND SIGNALS

Section 626.021 Miscellaneous Materials Revise this section by removing the fourth paragraph beginning with “ All Concrete for concrete encasement...” and replace it with **“All concrete for concrete encasement of conduit shall be Class S or Class Fill concrete in accordance with the applicable requirements of Section 502 – Structural Concrete, or a Prepackaged Concrete Mix from the Department’s Qualified Products List (QPL).”**

Section 626.031 Conduit Revise the fifth paragraph beginning with “After the trench has been...” by removing the last sentence beginning with “Where concrete encasement...” and replacing it with **“Where concrete encasement is required around the conduit, the concrete shall meet Class S, Class Fill in accordance with the applicable requirements of Section 502 – Structural Concrete, or a Prepackaged Concrete Mix from the Department’s Qualified Products List (QPL).”**

626.034 Concrete Foundations Revise this Section by changing ‘626.037’ to ‘**626.036**’ in the Second Paragraph which begins with “Foundations shall consist of cast-in-place...”.

Revise the 10<sup>th</sup> paragraph beginning with “Before placing concrete, the required elbows...” by removing “...in accordance with **Standard Specification 633.**”

626.036 Precast Foundations Revise the last sentence of paragraph one so that it reads: **“Construction of precast foundations shall conform to the Standard Details and all requirements of 712.061.”**

## SECTION 627 PAVEMENT MARKINGS

627.02 Materials Amend this section by adding the following to the existing Specification:

**“When pavement marking paint must be applied on pavement with an air temperature between 35 °F and 50 °F, a low temperature waterborne paint may be used upon the Department’s approval as noted below.**

**The Contractor shall submit the following information for Department review and approval at least 10 calendar days prior to application:**

**The manufacturer and product name of the low temperature waterborne paint**

**The manufacturer's technical product data sheets**

**The product's SDS sheets**

**All required and recommended application specifications for the product**

**The manufacturer's requirements for temperature, surface preparation, paint thickness and the bead application shall be followed. No additional payment will be made for the use of low temperature waterborne paint. “**

627.06 Application Revise this subsection by replacing the paragraph beginning with “ On other final pavement markings...” with the following:

**“On other final pavement markings and on curb, where the paint is applied by hand painting or spraying, application shall be one uniform covering coat at least 16 mils thick. Before the paint has dried, the glass beads shall be applied by a pressure system that will force the glass beads onto the undried paint as uniformly as possible.**

**Painted lines and markings shall be applied in accordance with the manufacturer's published recommendations. These recommendations will be supplied to the Resident prior to installation.”**

Revise this subsection by replacing the paragraph beginning with “ If the final reflectivity values are less...” with the following:

**“The final reflectivity will be acceptable if 90 percent or more of the painted pavement lines and markings meet the specified minimum value. If less than 90 percent of the painted pavement lines and markings meet the specified minimum final reflectivity values, the Contractor shall repaint those areas not meeting required reflectivity at no cost to the Department.**

**If, after repainting, analysis of the final reflectivity values results in the need for a second repainting, the Contractor will submit in writing a plan of action to meet the reflectivity minimums prior to continuing any work. Once the plan has been reviewed and approved by the Department, the Contractor shall reapply at no cost to the Department.”**

## **SECTION 634** **HIGHWAY LIGHTING**

634.021 Materials Revise this subsection by removing the paragraph beginning with “All bolts for mounting lighting fixtures” and replacing with:

**“All bolts for mounting lighting fixtures under bridge structures shall conform to the requirements of ASTM A307. These bolts and other fastening hardware shall be galvanized in**

accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I.”

## SECTION 637 DUST CONTROL

Revise this section by removing it in its entirety.

## SECTION 643 TRAFFIC SIGNALS

643.021 Materials Amend this subsection by adding the following at the end:

**“MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:**

**Temporary Traffic Control Signals will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 4 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.”**

643.023 Traffic Signal Structures Remove the third paragraph and replace it with the following:

**“Traffic signal support structures shall be classified as Fatigue Category III if they are located on roads with a speed limit of 35 mph or less, Fatigue Category II if they are located on roads with a speed limit of greater than 35 mph, and Fatigue Category I if noted on the Contract Plans. Fatigue Importance Factors shall be as specified in Table 11.6-1 (Fatigue Importance Factors). Fatigue analyses are not required for span-wire (strain) pole traffic signal support structures with heights of 55 feet or less unless required by the current edition of AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals”.**

643.09 Service Connection Revise this subsection by removing the paragraph that begins with “Traffic signal services shall have...”.

And by removing the paragraphs beginning with “ A service ground rod shall be installed...” and “A total of 4, 10’ service...” and replace them with **“A total of 4, 10’ service ground rods shall be installed and properly connected together on the outside of the cabinet foundation. One ground rod shall be located at each corner and shall be either flush or slightly below finished grade. The connection between the ground rod and the ground wire shall be an**

exothermic connection such as a Cadweld. The ground wire from the interconnected ground rods shall be routed through a conduit in the foundation and into the base of the cabinet”.

## SECTION 645 HIGHWAY SIGNING

Section 645.023 Sign Support Structures. Under letter “c.”, revise the fifth paragraph beginning with “In addition to the required details...” by removing the words **”and foundation”** from the 5<sup>th</sup> sentence.

Section 645.08 Method of Measurement. Revise the second paragraph beginning with “Bridge-type, cantilever and...” by removing the words **”including the foundation”** .

Section 645.09 Basis of Payment. Revise the third paragraph beginning with “The accepted bridge-type, cantilever and...” by removing the word **”foundation”** from the second sentence. Add the following sentence to the end of the paragraph **“Conduits, Junction Boxes, and Foundations will be paid for under Section 626.”**

## SECTION 652 MAINTENANCE OF TRAFFIC

652.2.5 Portable Changeable Message Sign Revise the fifth paragraph so it reads:

**“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. Messages must be changeable with either a portable electronic device like 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. The cabinet shall be locked at all times that the Contractor is not actively changing the message. The Contractor shall change the password for the controller prior to stationing the PCMS and shall provide the password to the Resident. The password shall be unique per PCMS and secure and shall not be written anywhere in, on, around, or stored in the PCMS.”**

Amend this Section by adding the following new subsection:

**“652.2.6 Device Crashworthiness MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:**

**Category 1 (Cones, Drums, Tubular Markers, Flexible Delineators, and similar devices that have little chance of causing windshield penetration, tire damage, or other significant effect on the control or trajectory of a vehicle) – All Category 1 devices will be manufacturer self-certified as MASH2016 by January 1, 2025. Current Category 1 devices in useful serviceable condition that are not self-certified as MASH2016 compliant may be utilized through December 31, 2024.**

**Category 2 (Barricades, Portable Sign Supports, Category 1 devices with attachments, and similar devices that are not expected to produce significant vehicular velocity change but may be otherwise hazardous) – All Category 2 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2025. Current Category 2 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2024.**

**Category 3 (Portable Concrete Barrier, Portable Crash Cushions, Truck Mounted Attenuators, Category 2 devices weighing more than 100 pounds, and similar devices that are expected to produce significant vehicular velocity change or other harmful reactions) – All Category 3 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 3 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029. (See Standard Specification 526 for additional Portable Concrete Barrier information).**

**Category 4 (Trailer Mounted Devices: Arrow Boards, Temporary Traffic Control Signals, Area Lighting, Portable Changeable Message Sign, and other similar devices.) – All Category 4 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 4 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.”**

652.3.3 Submittal of Traffic Control Plan Amend this section by adding:

**“n. A security plan for any PCMS shall be included. The Contractor shall provide a plan for secure access to the PCMS and protection from unauthorized users. The plan shall have details on securing the cabinets via a lock and password from unauthorized users, password changing protocols, and where the access information will be kept so it can be used in the event of emergency. The Contractor shall not Identify or store passwords in the TCP.”**

652.4 Flaggers Revise the first paragraph of this section so that it reads:

**“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.”**

## SECTION 681

### **PRECAST AGGREGATE-FILLED, CONCRETE BLOCK GRAVITY WALL**

681.08 Basis of Payment Amend this section by adding the Item Number **“681.10”** in front of the item **“Precast Aggregate-Filled Concrete Block Gravity Wall”** at the end of the section.

## SECTION 701 STRUCTURAL CONCRETE RELATED MATERIAL

701.01 Portland Cement and Portland Pozzolan Cement Amend the first sentence of Paragraph 3 by adding “**or Type 1L Portland Limestone cement**” so that it reads:

**“A Type IP (MS) Portland-pozzolan cement (blended hydraulic cement with moderate sulfate resistance) or Type 1L Portland Limestone cement meeting the requirements of AASHTO M 240, may be used instead of Type II or where Type I Portland cement, meeting the requirements of AASHTO M 85, is allowed.”**

## SECTION 703 AGGREGATES

Add the following to Section 703 - Aggregates

703.01 Fine Aggregate for Concrete Fine aggregate for concrete shall consist of natural sand or, when approved by the Resident, other inert materials with similar characteristics or combinations thereof, having strong, durable particles. Fine aggregate from different sources of supply shall not be mixed or stored in the same pile nor used alternately in the same class of construction or mix without permission of the Resident.

All fine aggregate shall be free from injurious amounts of organic impurities. Should the fine aggregate, when subjected to the colorimetric test for organic impurities, AASHTO T 21, produce a color darker than the reference standard color solution (laboratory designation Plate III), the fine aggregate shall be rejected.

Fine aggregate shall have a sand equivalent value of not less than 75 when tested in accordance with AASHTO T 176.

Fine aggregate sources shall meet the Alkali Silica Reactivity (ASR) requirements of Section 703.0201.

The fineness modulus shall not be less than 2.26 or more than 3.14. If this value is exceeded, the fine aggregate will be rejected unless suitable adjustments are made in proportions of coarse and fine aggregate. The fineness modulus of fine aggregate shall be determined by adding the cumulative percentages of material by weight retained on the following sieves: Nos. 4, 8, 16, 30, 50, 100 and dividing by 100.

Fine aggregate, from an individual source when tested for absorption as specified in AASHTO T 84, shall show an absorption of not more than 2.3 percent.

| Sieve Designation  | Percentage by Weight Passing Square Mesh Sieves |
|--------------------|-------------------------------------------------|
| $\frac{3}{8}$ inch | 100                                             |
| No. 4              | 95-100                                          |
| No. 8              | 80-100                                          |
| No. 16             | 50-85                                           |
| No. 30             | 25-60                                           |
| No. 50             | 10-30                                           |
| No. 100            | 2-10                                            |
| No. 200            | 0-5.0                                           |

703.02 Coarse Aggregate for Concrete Coarse aggregate for concrete shall consist of crushed stone or gravel having hard, strong, durable pieces, free from adherent coatings and of which the composite blend retained on the  $\frac{3}{8}$  inch sieve shall contain no more than 15 percent, by weight of flat and elongated particles when performed in accordance with test method ASTM D 4791, Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate, using a dimensional ratio of 1:5.

The coarse aggregate from an individual source shall have an absorption no greater than 2.0 percent by weight determined in accordance with AASHTO T 85 modified for weight of sample.

The composite blend shall have a Micro-Deval value of 18.0 percent or less as determined by AASHTO T 327 or not exceed 40 percent loss as determined by AASHTO T 96.

Coarse aggregate sources shall meet the Alkali Silica Reactivity (ASR) requirements of Section 703.0201.

Coarse aggregate shall conform to the requirements of the following table for the size or sizes designated and shall be well graded between the limits specified.

| Sieve Designation | Percentage by Weight<br>Passing Square Mesh Sieves |        |        |        |         |        |         |
|-------------------|----------------------------------------------------|--------|--------|--------|---------|--------|---------|
| Grading           | S                                                  | A      | AA     | SP-1-7 | SP-1-78 | SP-2-8 | SP-2-89 |
| Aggregate Size    | 1 ½ inch                                           | 1 inch | ¾ inch | ½ inch | ½ inch  | ⅜ inch | ⅜ inch  |
| 2 inch            | 100                                                |        |        |        |         |        |         |
| 1 ½ inch          | 95-100                                             | 100    |        |        |         |        |         |
| 1 inch            | -                                                  | 95-100 | 100    |        |         |        |         |
| ¾ inch            | 35-70                                              | -      | 90-100 | 100    | 100     |        |         |
| ½ inch            | -                                                  | 25-60  | -      | 90-100 | 90-100  | 100    | 100     |
| ⅜ inch            | 10-30                                              | -      | 20-55  | 40-70  | 40-75   | 85-100 | 90-100  |
| No. 4             | 0-5                                                | 0-10   | 0-10   | 0-15   | 5-25    | 10-30  | 20-55   |
| No. 8             | -                                                  | 0-5    | 0-5    | 0-5    | 0-10    | 0-10   | 5-30    |
| No. 16            | -                                                  | -      | -      | -      | 0-5     | 0-5    | 0-10    |
| No. 50            | -                                                  | -      | -      | -      | -       | -      | 0-5     |
| No. 200*          | 0-1.5                                              | 0-1.5  | 0-1.5  | 0-1.5  | 0-1.5   | 0-1.5  | 0-1.5   |

\*This limit will be 0-2.0 for Department production samples. Yearly quality samples will be held to 0-1.5.

**703.0201 Alkali Silica Reactive Aggregates** All coarse and fine aggregates proposed for use in concrete shall be tested for Alkali Silica Reactivity (ASR) potential under AASHTO T 303 (ASTM C 1260), Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction, prior to being accepted for use. Acceptance will be based on testing performed by an accredited independent lab submitted to the Department. Aggregate submittals will be required on a 5-year cycle, unless the source or character of the aggregate in question has changed within 5 years from the last test date.

As per AASHTO T 303 (ASTM C 1260): Use of a particular coarse or fine aggregate will be allowed with no restrictions when the mortar bars made with this aggregate expand less than or equal to 0.10 percent at 30 days from casting. Use of a particular coarse or fine aggregate will be classified as potentially reactive when the mortar bars made with this aggregate expand greater than 0.10 percent at 30 days from casting. Use of this aggregate will only be allowed with the use of cement-pozzolan blends and/or chemical admixtures that result in mortar bar expansion of less than 0.10 percent at 30 days from casting as tested under ASTM C 1567.

Acceptable pozzolans and chemical admixtures that may be used when an aggregate is classified as potentially reactive include, but are not limited to the following:

- Class F Coal Fly Ash meeting the requirements of AASHTO M 295
- Ground Granulated Blast Furnace Slag (Grade 100 or 120) meeting the requirements of AASHTO M 302
- Densified Silica Fume meeting the requirements of AASHTO M 307
- Lithium-based admixtures
- Metakaolin

Pozzolans or chemical admixtures required to offset the effects of potentially reactive aggregates will be incorporated into the concrete at no additional cost to the Department.

Amend this section by adding the new sub section:

**“703.03 Combined Aggregate Grading for Concrete** The combined gradation of the fine and coarse aggregates when mathematically blended using the mix design percentages shall conform to the requirements of the following table for the size or sizes designated and shall be well graded between the limits specified.

| Sieve Designation | Percentage by Weight<br>Passing Square Mesh Sieves |        |        |        |         |        |         |
|-------------------|----------------------------------------------------|--------|--------|--------|---------|--------|---------|
| Grading           | S                                                  | A      | AA     | SP-1-7 | SP-1-78 | SP-2-8 | SP-2-89 |
| Aggregate Size    | 1½ inch                                            | 1 inch | ¾ inch | ½ inch | ½ inch  | ⅜ inch | ⅜ inch  |
| 2 inch            | 100                                                |        |        |        |         |        |         |
| 1½ inch           | 95–100                                             | 100    |        |        |         |        |         |
| 1 inch            | 80–100                                             | 95–100 | 100    |        |         |        |         |
| ¾ inch            | 55–90                                              | 90–100 | 93–100 | 100    | 100     |        |         |
| ½ inch            | 45–80                                              | 55–80  | 60–90  | 90–100 | 90–100  | 100    | 100     |
| ⅜ inch            | 40–65                                              | 40–65  | 50–80  | 55–85  | 65–90   | 90–100 | 90–100  |
| No. 4             | 35–55                                              | 35–55  | 35–60  | 30–60  | 40–70   | 45–75  | 50–80   |
| No. 8             | 25–53                                              | 28–50  | 30–55  | 25–55  | 30–65   | 35–65  | 35–75   |
| No. 16            | 15–40                                              | 18–45  | 19–45  | 18–50  | 20–55   | 20–55  | 20–55   |
| No. 30            | 7–30                                               | 9–30   | 10–33  | 8–32   | 10–38   | 10–38  | 10–40   |
| No. 50            | 3–14                                               | 4–14   | 4–16   | 3–16   | 4–20    | 4–20   | 4–20    |
| No. 100           | 0–6                                                | 0–6    | 0–6    | 0–6    | 0–7     | 0–8    | 0–8     |
| No. 200           | 0–3.5*                                             | 0–3.5* | 0–3.5* | 0–3.5* | 0–3.5*  | 0–3.5* | 0–3.5*  |

**\*The percent passing the No. 200 sieve shall not exceed 6.0 percent for any fine aggregate. The percent passing the No. 200 sieve shall not exceed 2.0 percent for any single coarse aggregate. The percent passing the No. 200 sieve shall not exceed 4.0 percent for the combined gradation of self-consolidating concrete (SCC) mix designs.”**

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

| Sieve Designation | Percentage by Weight<br>Passing Square Mesh Sieves |
|-------------------|----------------------------------------------------|
| ⅜ inch            | 85-100                                             |
| No. 200           | 0-5.0                                              |

703.06 Aggregate for Base and Subbase The following shall apply to Sections (a.) and (c.) below. The material shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0, the Washington State Degradation DOT Test Method T113, Method of Test for Determination of Degradation Value (January 2009 version) shall be performed, except that the test shall be performed on the portion of the sample that passes the ½ in sieve and is retained on the No. 10 sieve. If the material has a Washington Degradation value of less than 15, the material shall be rejected. The material used in Section (b.) below shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0 the material may be used if it does not exceed 25 percent loss on AASHTO T 96, Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

Recycled Asphalt Pavement (RAP) shall not be used for or blended with aggregate base or subbase.

- a. Aggregate for base, Type A and B shall be crushed ledge or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a 3 inch sieve shall meet the grading requirements of the following table:

| Sieve Designation | Percentage by Weight Passing Square Mesh Sieves |        |
|-------------------|-------------------------------------------------|--------|
|                   | Type A                                          | Type B |
| ½ inch            | 45-70                                           | 35-75  |
| ¼ inch            | 30-55                                           | 25-60  |
| No. 40            | 0-20                                            | 0-25   |
| No. 200           | 0-6.0                                           | 0-6.0  |

At least 50 percent by weight of the material retained on the No. 4 sieve shall have at least one fractured face as tested by AASHTO T 335.

Type A aggregate for base shall only contain particles of rock that will pass the 2 inch square mesh sieve.

Type B aggregate for base shall only contain particles of rock that will pass the 4 inch square mesh sieve.

- b. Aggregate for base, Type C shall be crushed ledge or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The material shall meet the grading requirements of the following table:

| Sieve Designation | Percentage by Weight<br>Passing Square Mesh Sieves |
|-------------------|----------------------------------------------------|
|                   | Type C                                             |
| 4 inches          | 100                                                |
| 3 inches          | 90-100                                             |
| 2 inches          | 75-100                                             |
| 1 inch            | 50-80                                              |
| ½ inch            | 30-60                                              |
| No. 4             | 15-40                                              |
| No. 200           | 0-6.0                                              |

At least 50 percent by weight of the material coarser than the No. 4 sieve shall have at least one fractured face as tested by AASHTO T 335.

c. Aggregate for subbase shall be sand or gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a 3 inch sieve shall meet the grading requirements of the following table:

| Sieve Designation | Percentage by Weight<br>Passing Square Mesh Sieves |        |
|-------------------|----------------------------------------------------|--------|
|                   | Type D                                             | Type E |
| ½ in              | 35-80                                              |        |
| ¼ inch            | 25-65                                              | 25-100 |
| No. 40            | 0-30                                               | 0-50   |
| No. 200           | 0-7.0                                              | 0-7.0  |

Type D aggregate for subbase gravel may contain up to 50 percent by weight Recycled Concrete Aggregate (RCA). When RCA is used, the portion of the resulting blend of gravel and RCA retained on a ½” square mesh sieve shall contain a total of no more than 5 percent by weight of other recycled materials such as brick, concrete masonry block, or asphalt pavement as determined by visual inspection.

RCA shall be substantially free of wood, metal, plaster, and gypsum board as defined in Note 9 in Section 7.4 of AASHTO M 319. RCA shall also be free of all substances that fall under the category of solid waste or hazardous materials.

Aggregate for subbase shall not contain particles of rock which will not pass the 6 inch square mesh sieve.

**703.08 Recycled Asphalt Pavement** Recycled asphalt pavement shall consist of salvaged asphalt materials from milled pavements or production waste that has been processed before use to meet the requirements of the job mix formula. It shall be free of winter sand, granular fill, construction debris, or other materials not generally considered asphalt pavement.

703.081 RAP for Asphalt Pavement Recycled Asphalt Pavement (RAP) may be introduced into hot-mix asphalt pavement at percentages approved by the Department according to the MaineDOT Policies and Procedures for HMA Sampling and Testing.

If approved by the Department, the Contractor shall provide documentation stating the source, test results for average residual asphalt content, and stockpile gradations showing RAP materials have been sized to meet the maximum aggregate size requirements of each mix designation. The Department will obtain samples for verification and approval prior to its use.

The maximum allowable percent of RAP shall be determined by the asphalt content, the percent passing the 0.075 mm sieve, the ratio between the percent passing the 0.075 mm sieve and the asphalt content, and Coarse Micro-Deval loss values as tested by the Department.

The maximum percentage of RAP allowable shall be the lowest percentage as determined according to Table 4 below:

| <b>Classification</b> | <b>Maximum RAP Percentage Allowed</b> | <b>Asphalt content standard deviation</b> | <b>Percent passing 0.075 mm sieve standard deviation</b> | <b>Percent passing 0.075 mm sieve / asphalt content ratio</b> | <b>Residual aggregate M-D loss value</b> |
|-----------------------|---------------------------------------|-------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------|------------------------------------------|
| <b>Class III</b>      | <b>10%</b>                            | <b><math>\leq 1.0</math></b>              | <b>N/A</b>                                               | <b><math>\leq 4.0</math></b>                                  | <b><math>\leq 18</math></b>              |
| <b>Class II</b>       | <b>20%</b>                            | <b><math>\leq 0.5</math></b>              | <b><math>\leq 1.0</math></b>                             | <b><math>\leq 2.8</math></b>                                  |                                          |
| <b>Class I</b>        | <b>30%</b>                            | <b><math>\leq 0.3</math></b>              | <b><math>\leq 0.5</math></b>                             | <b><math>\leq 1.8</math></b>                                  |                                          |

Table 4: Maximum Percent RAP According to Test Results

The Department will monitor RAP asphalt content and gradation during production by testing samples from the stockpile at approximately 15,000 T intervals (in terms of mix production). The allowable variance limits (from the numerical average values used for mix designs) for this testing are determined based upon the maximum allowable RAP percentage and are shown below in Table 5.

Table 5: RAP Verification Limits

| Classification | Asphalt content<br>(compared to<br>aim) | Percent passing<br>0.075 mm sieve<br>(compared to aim) |
|----------------|-----------------------------------------|--------------------------------------------------------|
| Class III      | ± 1.5                                   | ± 2.0                                                  |
| Class II       | ± 1.0                                   | ± 1.5                                                  |
| Class I        | ± 0.5                                   | ± 0.7                                                  |

For specification purposes, RAP will be categorized as follows:

Class III – A maximum of 10.0 percent of Class III RAP may be used in any base, intermediate base, surface, or shim mixture. A maximum of 20.0 percent of Class III RAP may be used in hand-placed mixes for item 403.209.

Class II – A maximum of 20.0 percent Class II RAP in any base, binder, surface, or shim course.

Class I – A maximum of 20.0 percent Class I RAP may be used in any base, intermediate base, surface, or shim mixture without requiring a change to the specified asphalt binder. A maximum of 30.0 percent Class I RAP may be used in in any base or intermediate base mixture provided that a PG 58-28 or PG 58-34 asphalt binder is used. A maximum of 30.0 percent Class I RAP may be used in any surface or shim mixture provided that PG 58-34 asphalt binder is used. Mixtures exceeding 20.0 percent Class I RAP must be evaluated and approved by the Department.

The Contractor may use up to two different RAP sources in any one mix design. The total RAP percentage of the mix shall not exceed the maximum allowed for the highest classification RAP source used (i.e. if a Class I & Class III used, total RAP must not exceed 30.0%). The blended RAP material must meet all the requirements of the classification for which the RAP is entered (i.e. 10% Class III with 20% Class I, blend must meet Class I criteria). The Department may take belt cuts of the blended RAP to verify the material meets these requirements. If the Contractor elects to use more than one RAP source in a design, the Contractor shall provide an acceptable point of sampling blended RAP material from the feed belt.

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.

Revise this Section by removing 703.7 and 703.9 in its entirety and replace with the following:

**703.07 Aggregates for HMA Pavements** Coarse and fine aggregate for hot mix asphalt pavements shall be of such gradation that when combined in the proper proportions, including filler, if required, the resultant blend will meet the composition of mixture for the type of pavement specified.

Coarse aggregate, that material retained on the No. 4 sieve, shall be crushed stone or crushed gravel and, unless otherwise stipulated, shall consist of clean, tough, durable fragments free from an excess of soft or disintegrated pieces and free from stone coated with dirt or other objectionable matter. Coarse aggregate shall not exceed an absorption of 2.0 percent by weight as determined by AASHTO T 85.

Fine aggregate, material that passes the No. 4 sieve, shall consist of natural sand, manufactured sand, or a combination of these. It shall consist of hard, tough grains, free from injurious amounts of clay, loam, or other deleterious substances. Fine aggregate shall not exceed an absorption of 2.3 percent by weight as determined by AASHTO T 84.

All individual aggregates for hot mix asphalt pavements shall meet Table 3 requirements (excluding LCP) unless otherwise noted. The Department reserves the right to sample and test the aggregate for any of the following properties at any time:

**TABLE 3: Aggregate Consensus Properties Criteria**

| Estimated Traffic, Million 18 kip ESALs | AASHTO T 335 (minimum %) | AASHTO T 304 Method A ** | ASTM D 4791 Method B | AASHTO T 176 | Aggregate shall meet at least one of these: |             |              |
|-----------------------------------------|--------------------------|--------------------------|----------------------|--------------|---------------------------------------------|-------------|--------------|
|                                         |                          |                          |                      |              | AASHTO T 327                                | AASHTO T 96 | WSDOT T 113* |
| < 3.0                                   | 75/60                    | ≥ 40%                    | ≤ 10%                | ≥ 45         | ≤ 18.0%                                     | ≤ 40%       | ≥ 30         |
| 3.0 to < 10                             | 90/80                    | ≥ 45%                    |                      | ≥ 50         |                                             | ≤ 35%       |              |
| ≥ 10                                    | 95/90                    |                          |                      |              |                                             | ≤ 30%       | N/A          |

- \* As determined by Washington State DOT Test Method T 113, Method of Test for Determination of Degradation Value 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 ½ inch sieve and is retained on the No. 10 sieve.
- \*\* Property will be evaluated on a mix design basis by calculating a weighted average based upon individual aggregate values (weighted average by the percentage proportion of the aggregate within the design).

**AASHTO T 335** - “90/80” denotes that 90 percent of the coarse aggregate has one fractured face and 80 percent has two fractured faces.

**AASHTO T 304** - Criteria are presented as percent air voids in loosely compacted fine aggregate, (U).

**ASTM D4791** - Criteria are presented as maximum percent by weight of flat and elongated particles (5:1 ratio).

The entire HMA wearing course shall come from the same source of material and the same job mix formula, except when permission is obtained from the Department to change sources.

**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, including RAP aggregate will meet the grading requirements of the following table:

| Aggregate Gradation Control Points                                |            |            |              |             |                                     |              |
|-------------------------------------------------------------------|------------|------------|--------------|-------------|-------------------------------------|--------------|
| Nominal Maximum Aggregate Size---Control Points (Percent Passing) |            |            |              |             |                                     |              |
| Sieve Designation                                                 | Type 25 mm | Type 19 mm | Type 12.5 mm | Type 9.5 mm | Type 9.5 mm Thin Lift Mixture (TLM) | 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                                 | 100          |
| 9.5 mm                                                            | -          | -          | -90          | 90-100      | 95-100                              | 95-100       |
| 4.75 mm                                                           | -          | -          | -            | -90         | 60-95                               | 80-100       |
| 2.36 mm                                                           | 19-45      | 23-49      | 28-58        | 32-67       | 47-65                               | 40 - 80      |
| 1.18 mm                                                           | -          | -          | -            | -           | -                                   | -            |
| 0.60 mm                                                           | -          | -          | -            | -           | -                                   | -            |
| 0.30 mm                                                           | -          | -          | -            | -           | -                                   | -            |
| 0.075 mm                                                          | 2.0-6.0    | 2.0-6.0    | 2.0-6.0      | 2.0-7.0*    | 2.0-7.0*                            | 2.0-7.0      |

\* For 9.5 mm nominal maximum aggregate size mixtures, the maximum design aim for the percent passing the 75 µm sieve is 6.5%.

## SECTION 709 REINFORCING STEEL AND WELDED STEEL WIRE FABRIC

**709.01 Reinforcing Steel** Remove the second paragraph of Section 709.01 of the standard specification beginning with “Low-Carbon, Chromium,...” and replace with the following:

**“ Low-carbon, chromium, reinforcing steel shall be deformed bars conforming to the requirements of ASTM A1035. Bars shall be Grade 100 and alloy Type CS unless otherwise specified on the Plans. “**

## SECTION 710 FENCE AND GUARDRAIL

710.06 Fence Posts and Braces Revise the first Paragraph so that it reads:

“Wood posts shall be of cedar, white oak, or tamarack or other AWPAs approved species, of the diameter or section and length shown on the plans.”

Remove the fourth paragraph which starts “ That portion of wood posts...”.

Revise the paragraph beginning with “Braces shall be of spruce, eastern hemlock ... so that it now reads:

“Braces shall be of spruce, eastern hemlock, Norway pine, pitch pine, or tamarack timbers or other AWPAs approved species, or spruce, cedar, tamarack or other AWPAs approved species round posts of sufficient length to make a diagonal brace between adjacent posts. All wood posts and braces shall be pressure-treated in accordance with AASHTO M 133 and AWPAs U1, UC4A Commodity Specification B: Posts. “

710.07 Guardrail Posts Revise this section so that the first sentence of section a. reads:

“a. Wood posts shall be of Norway pine, southern yellow pine, pitch pine, Douglas fir, red pine, white pine, or eastern hemlock or other AWPAs approved species.”

Revise the next paragraph so that it reads:

Wood posts and offset brackets shall be preservative treated in accordance with the requirements of AASHTO M 133 and AWPAs U1, UC4A Commodity Specification B: Posts.

710.08 Guardrail Hardware Revise this subsection by replacing “AASHTO M 298” with “ASTM B695”

## SECTION 711 MISCELLANEOUS BRIDGE MATERIAL

711.06 Stud Shear Connector Anchors and Fasteners Amend this section by deleting it in its entirety and replacing it with:

**“Shear connectors shall meet the dimensional tolerances of Figure 9.1 of the ANSI/AASHTO/AWS D1.5 Bridge Welding Code (D1.5 Code). Shear connectors, anchors and fasteners shall meet the material requirements of Section 9 of the D1.5 Code. Shear connectors shall meet the mechanical property requirements of Table 9.1, Type B of the D1.5 Code. Anchors and fasteners shall meet the mechanical property requirements of Table 9.1 of the D1.5 Code, Type A.”**

## SECTION 712 MISCELLANEOUS HIGHWAY MATERIAL

712.061 Structural Precast Units Amend this section by adding the following sentence to the end of the first paragraph of the Construction subsection:

**“Facilities certified by NPCA or PCI shall provide to the Fabrication Engineer a copy of their annual audit to include deficiency reports and corrective actions.”**

Revise this section by changing the letter “b” of ASTM C1611 of the Concrete Testing subsection so that it reads:

**“b. Air content shall be 5.0% to 8.0%.”**

## SECTION 713 STRUCTURAL STEEL AND RELATED MATERIAL

Section 713.01 Structural Steel Replace paragraph two in its entirety with the following:

**“Main load-carrying components subject to tensile stresses or stress reversal shall meet the notch toughness requirements in AASHTO M 270M, Table 11, Zone 2, for non-fracture critical steel or Table 12, Zone 2 for fracture critical steel. Frequency of tension tests shall comply with the requirements of S1.”**

Section 713.02 High Strength Bolts Revise this subsection by removing the portion from the beginning up to and including TABLE 1 – Test Schedule\*, and replace it with:

**“Bolts shall conform to the requirements of ASTM F3125, Grade A325, Type 1 or Type 3. Type 3 bolts shall be supplied for all structures utilizing unpainted AASHTO M 270M weathering steel. Type 1 galvanized bolts shall be used for all structures utilizing metallized or galvanized steel.**

**Nuts shall meet the requirements of ASTM A563.**

**Circular and beveled washers shall conform to the requirements of ASTM F436.**

**Direct Tension Indicators (DTI’S) shall conform to the requirements of ASTM F959. DTI’s for use with painted steel shall have a plain “as fabricated” finish. DTI’s for use with unpainted steel shall be galvanized to the requirements of ASTM B695 Class 50, Type I and have a fusion-bonded epoxy coating. DTI’s used with galvanized steel, metallized steel and steel coated with a zinc-rich primer shall be galvanized to the requirements of ASTM B695 Class 50, Type I.**

**“Twist Off” Type Tension Control Structural Bolt/Nut/Washer Assemblies shall meet the requirements of ASTM F3125, Grade F1852.**

**Bolts, nuts and washers specified to be galvanized, shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695 Class 50, Type I.**

**All fastener (bolts and nuts), whether black or galvanized, shall be coated with a suitable lubricant. Galvanized nuts shall be lubricated with a lubricant containing a visible dye.**

**Each lot of bolts, nuts, washers and DTI's shall be tested by the manufacturer in accordance with the tests tabulated in Table 1 - Test Schedule. The testing frequency for bolts, nuts and washers from each shipping lot of fasteners shall be as specified in the applicable AASHTO/ASTM Standard Specifications. The testing frequency for each production lot of DTI's shall be as specified in ASTM F959.**

TABLE 1 - Test Schedule\*

|         |                               |           |
|---------|-------------------------------|-----------|
| Bolts   | Tensile Strength (Wedge Test) | ASTM F606 |
|         | Proof Load                    | ASTM F606 |
|         | Hardness                      | ASTM F606 |
|         | Coating Thickness             | ASTM B695 |
| Nuts    | Proof Load                    | ASTM F606 |
|         | Hardness                      | ASTM F606 |
|         | Coating Thickness             | ASTM B695 |
| Washers | Hardness                      | ASTM F606 |
|         | Coating Thickness             | ASTM B695 |
| DTI's   | Coating Thickness             | ASTM B695 |
|         | Compression Load              | ASTM F959 |

## Section 716

### STRUCTURAL ALUMINUM AND RELATED MATERIAL

716.01 Aluminum Railings: Revise this subsection by removing section d. and replacing with:

**d. Steel Anchor Assembly Steel spacers for post anchors shall conform to the requirements of ASTM A36. Nuts embedded in concrete shall conform to the requirements of ASTM A307.**

**Anchor bolts, exposed nuts and washers shall conform to the requirements of ASTM A449 or ASTM F1554, Grade 55 and shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I.**

## SECTION 718

### TRAFFIC SIGNALS MATERIAL

718.03 Signal Mounting Amend the paragraph beginning with "All trunions, brackets and..." by adding **"For polycarbonate signal heads with more than 3 sections or requiring mounting extensions greater than 12 inches in length, reinforcing plates shall be used to reinforce the housings at the point of attachment."** to the end of the paragraph.

718.08 Controller Cabinet Revise this subsection by replacing the paragraph beginning with “The cabinet shall be supplied with LED light panels...” on or about page 7-66 with **“The cabinet shall be supplied with white LED light panels which shall automatically illuminate via a door open switch whenever one of the four main cabinet doors are opened for the ground mount cabinet or two main doors for the side of pole cabinet. The ground mounted cabinet shall contain four LED light panels per side totaling eight panels for the cabinet; one panel each at the top and bottom portion of the front side and back side on the Control side and Power/Auxiliary side of the cabinet. Each light panel shall produce a minimum of 250 lumens for a total minimum lumen output of 2000 lumens with all eight panels illuminated. The minimum output per side would be 1000 lumens. The LED panels shall be protected by a clear shatterproof shield. The side of pole mounted cabinet shall contain four light panels; one at the top of the rack assembly and one at the bottom rack assembly on each side of the cabinet.**

**A second door open status switch per door shall activate a controller input to log a report event that one of the doors was opened. All door open status switches shall be connected to the same controller input. For the ground mount cabinet, there shall be two switches on each of the four main doors. For the side-of-pole mount cabinet, there shall be two switches on each of the two main doors.”**

Revise this subsection by replacing the paragraph beginning with “The cabinet shall be supplied with a generator panel ...” on or about page 7-68 with:

**“The cabinet shall be supplied with a generator panel. The generator panel shall consist of a manual transfer switch and a twist-lock connector for generator hookup. The transfer switch knob and twist-lock connector shall be located inside a stainless steel enclosure with a separate lockable door accessed with a Corbin #2 key. The unit shall be mounted on the left, exterior of the control side wall of the ground mount cabinet a minimum of 36” above the surrounding grade and on the lower left side of the pole mounted cabinet. The generator transfer switch shall be a Reliance C30A1N Signa Series or approved equal. “**

Revise this subsection by removing the following from the paragraph beginning with “The ground mounted cabinet shall be supplied and installed with an electric service meter socket trim and electrical service disconnect switch ...” on or about page 7-69: **“(removed: thus preventing that space from being used either by equipment supplied as part of the project, or future equipment that would be installed in the rack system. Joe indicated that he would add this language to the detail so it is covered.)”**.

Revise this subsection by replacing the following in the paragraph beginning with “The Contractor shall reconfigure the default user name...” on or around page 7-70; “MaineDOT IT” with **“MaineDOT Traffic Division”**.

In the paragraph beginning with “Tests shall be conducted by the contractor...” on or around page 7-73, amend this subsection by removing **“in the state of Maine and”** after “The facility shall be”.

Amend this Section by adding the following subsection:

**718.13 Field Monitoring Unit (FMU)** This item of work shall conform to this specification. This item shall consist of furnishing and installing a Field Monitoring Unit (FMU) and software, as well as all needed accessories required for a full and complete installation, including but not limited to power adapters, Ethernet cables, and interface cables, as described herein.

Where applicable, communications from MaineDOT's cloud-based Central Management System (CMS) to the on-street traffic signal controllers shall be made through fiber optic interconnect cable connected back to existing internet connections and/or the Field Monitoring Unit (FMU). The Contractor shall furnish and install all materials necessary for a complete and operational fiber optic interconnection to all project intersections as shown on the plans. All connections to the CMS cloud-based system shall be via a secure VPN network.

The FMU shall be the only remote connection device used by isolated intersections to connect to the cloud-based system. All connections shall be encrypted VPN tunnels. The Contractor shall coordinate all configuration settings with MaineDOT IT and the Engineer.

The FMU central web based interface shall be a separate element from the CMS.

**MATERIALS:** The materials for this work shall conform to the following requirements:

1. The work under this item specifies the requirements for the FMU. The FMU shall operate independent of the brand/type of intersection controller deployed in the ATC traffic cabinet.
2. The FMU shall conform to the following requirements:
  - 2.1 The FMU shall function correctly between -34 degrees C and +74 degrees C.
  - 2.2 The FMU shall be provided with appropriately rated connectors that allows the FMU to be exchanged by unplugging connectors, without tools.
  - 2.3 The FMU shall monitor and log all ATC Controller and ATC cabinet faults and or alarms.
  - 2.4 The FMU shall be wired directly to the ATC cabinet.
  - 2.5 The FMU shall have an internal cellular modem running at 4G LTE.
    - 2.5.1 The Cellular modem shall be designed to be replaced / upgraded to 5G service when available.
  - 2.6 The FMU shall incorporate an integrated GPS and cell modem.
  - 2.7 The configuration of the FMU shall be accomplished by accessing the internal web server with a browser. It shall be possible to configure the FMU without any special software.
  - 2.8 The FMU shall be powered via a standard 120V input power.

- 2.9 The FMU shall allow for the routing of the controller configuration packets to and from the controller (either by Ethernet or serial communications) for any type of controller utilized by the MaineDOT. In this way it shall be possible to configure the controller and utilize the controller specific software to interrogate the controller, and the FMU shall provide the communications pipe which allows this to be accomplished.
- 2.10 The FMU shall, within the size limitations above, include a battery and battery charging/monitoring circuit, to allow the FMU to function correctly even when all power to the intersection has failed. The battery shall continue to power the FMU for a minimum of 5 hours after all power has failed to the intersection.
- 2.11 The FMU shall incorporate an integrated GPS which will allow the FMU to geo-locate itself on the FMU management software map, without configuration.
- 2.12 The FMU shall operate without requiring a static IP address. The only configuration required at the FMU is to enter the URL of where the FMU management software is hosted.
- 2.13 In the event that the cell service is interrupted or is not available, the FMU shall store any events that occur in internal memory and forward these events automatically to the FMU management software when the cell service is restored. In this way, a complete record of events at the device can be maintained even if cell service is interrupted for a period. The system will store 5000 events.
- 2.14 The FMU shall utilize HTTP and HTTPS protocols, and XML data structures, for communication with the FMU management software. In this way the data will be open for future expansion and competition. The use of secret proprietary protocols is not permitted.
- 2.15 The FMU shall include Ethernet communications via an Ethernet Port with RJ45 connector.
- 2.16 The FMU shall include weather proof antennas.

### **3. Map Display FMU Management Software**

- 3.1 The FMU shall include a scrollable, zoomable map display, with the intersections and other monitored devices shown as representative icons on the map. The map shall include the ability to see the intersections using Google Streetview.
- 3.2 The alarm status of the intersection shall be clearly indicated on the icon on the map, so that the user can see at a glance which intersections are in alarm.
- 3.3 The map display shall also include a list of intersections, with the number and priority of alarms indicated on the list. Intersections in high priority alarm shall be moved to the top

of the list, followed by medium priority, low priority and then finally by intersections not in alarm.

3.4 The icons shall change to be able to clearly indicate if an intersection is offline.

3.5 Clicking on the icon on the map shall expose a box with the current parameters of the intersection shown.

3.6 The default map display position and zoom shall be configurable by user, so that the user's view will default to show the intersections that the user is responsible for managing.

3.7 The map view shall have the ability to show Google traffic overlays on the map.

#### **4. Intersection Detail Display FMU Management Software**

4.1 It shall be possible to drill down, either from the map icon or from the list, to a device level detail for the intersection, which as a minimum shall display the following parameters:

4.1.1 The alarm status, with priority indicated, and a text description of the alarm (if an alarm is present for this device).

4.1.2 The time since the last communication with the device

4.1.3 The following parameters (real time now values, minimum for the day values, maximum for the day values, and average for the day values)

4.1.3.1 The AC mains voltage (value)

4.1.3.2 The battery back-up voltage (value)

4.1.3.3 The cabinet temperature (value)

4.1.3.4 The cabinet humidity (value)

4.1.3.5 The presence of AC power (OK or Fail)

4.1.3.6 The flashing status of the intersection (OK or Flashing)

4.1.3.7 Stop Time status (OK or Stop Time Active)

4.1.3.8 The cabinet door status (Open or Closed)

4.1.3.9 The intersection fan status (Fan On or Fan off)

4.1.4 It shall be possible to view graphs of each of the value parameters in graphical form, over the recent two-week period. This includes real time graphs of:

4.1.4.1 The AC mains voltage

4.1.4.2 The battery back-up voltage

4.1.4.3 The cabinet temperature

4.1.4.4 The cabinet humidity

## **5. Diagnostics and Log Display FMU Management Software**

5.1 From the device level detail within the FMU management software, it shall be possible to drill down to get the raw data; the error logs; and the communications logs to allow a technician to fault-find problems.

5.2 It shall be possible to filter the logs by Device; by Device Type and/or by Group as well as between dates.

5.3 It shall be possible to print these selected logs to a local printer or a PDF file.

5.4 It shall be possible to export these logs to Excel on the local computer for further analysis.

## **6. Alarms FMU Management Software**

6.1 The FMU management software shall have a comprehensive alarm generation capability

6.2 It shall be possible to configure alarms to be generated on any parameter becoming out of tolerance, including analog values, digital values and enumerated values.

6.3 Alarms shall be configurable to be of Low, High or Critical Priority.

6.4 The alarm priority shall be displayed throughout the FMU management software, on all displays, using color codes such as red-critical; yellow – high; and amber-low to indicate the priority of the alarm.

6.5 The current active alarms shall be accessible for view via an expandable window, to see which alarms are active and when the alarm occurred. The highest priority alarms shall rise to the top of the list.

## **7. Alerts FMU Management Software**

7.1 The FMU management software shall have comprehensive alerting capability, to enable the response personnel to be notified when an abnormal situation has occurred.

- 7.2 It shall be possible to configure alerts to one or more personnel for each alarm. This will cause, as selected, an SMS and/or an email to be sent to the person when an alarm occurs.
- 7.3 The alert shall be configurable to optionally send via email and/or via SMS a message when an alarm clears.
- 7.4 The intention is that the FMU management software provides the alerts to the user in near real time. The SMS and email shall be issued within 30 seconds of the occurrence of event which results in an alert being issued.

## **8. Hosting and Connectivity and Service FMU / FMU Management Software**

- 8.1 The contractor shall supply the FMU with the FMU manufacturers 10 year options for Connectivity and Service, as part of the purchase price. The Connectivity and Service agreement shall include at a minimum:
- 8.1.1 Cellular Connectivity
  - 8.1.2 No cellular overage charges
  - 8.1.3 Extended warranty on the hardware for the period of the Connectivity and Service Agreement
  - 8.1.4 Over-the-air software updates
  - 8.1.5 Over-the-air security updates
  - 8.1.6 Future Connected Vehicles Service

## Section 719 **SIGNING MATERIAL**

719.072 Overhead Signing: Revise this subsection by replacing it in entirety with:

**“Sign panels mounted to independent sign support structures and support structure components mounted to bridges passing over the highway are considered to be overhead signing. Overhead signing shall be mounted on W6 by 9 steel beams conforming to the requirements of ASTM A992/A992M, galvanized in accordance with AASHTO M 111 (ASTM A123), or the same size aluminum beams conforming to ASTM B221M, alloys and tempers of 6061-T6, 6063-T6 or 6005-T5. These components shall be horizontally spaced a maximum of 5¼ feet on center, extending from the bottom of sign panel to the top. If supplemental signs are included in the contract, these beams will extend from the bottom of the main sign panel to the top of the supplemental sign panel. The maximum distance from the edge of the sign to the center of the W6 by 9 shall not exceed approximately 3¼ feet.**

**On independent sign support structures, these W6 by 9 beam components shall be fastened to chords with a pair of appropriately sized U-bolts on each side of the web at each fastening**

location. A similar pair of U-bolt assemblies shall be used in attaching each chord of an overhead component to upright supports. U-bolts for steel support structures shall conform to ASTM A449, Type 1. U-bolt hardware, which includes nuts, flat washers, and helical lock washers, shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I. Washers shall conform to the requirements of ASTM F436. The U-bolt material for aluminum support structures, or a combination of steel and aluminum structural components, shall be stainless steel conforming to the requirements of ASTM F593, alloy group 1, with a minimum yield strength of 45 ksi. Steel support structures may also utilize stainless steel hardware assemblies as an alternative to galvanized steel. Nuts shall be of the locking type with nylon inserts. Washers shall conform to the requirements of ASTM A276, Type 302. Flat washers, without helical lock washers, will be acceptable in this stainless steel assembly.

On bridge mounted structures, the fastener configurations shall be depicted in the contract documents. “

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

720.03 Steel Supports: Revise this subsection by removing the paragraph beginning with “Chord flange splice fastener” and replacing with:

“Chord flange splice fastener assemblies shall conform to ASTM A325, Type 1, and galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I. Other fastener assemblies shall be as specified in Section 719.07, or as approved by the Fabrication Engineer.”

720.06 Steel H-beam: Revise this subsection by replacing it in its entirety with:

“Steel H-beam Post shall conform to the requirements of ASTM A992. All work shall conform to the applicable provisions of Section 504 – Structural Steel. Steel shall be hot-dip galvanized in accordance with AASHTO M 111 (ASTM A123). All steel hardware for use with H-beam poles shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I.”

720.07 Anchor Bolts: Revise this subsection by replacing it in its entirety with:

“Anchor bolts and nuts supplied for aluminum and/or steel supports shall conform to ASTM A449, Type 1, or ASTM F1554, Grade 55, both with a minimum yield strength of 55 ksi. Anchor bolts shall be supplied with 2 heavy hex nuts and 2 hardened washers and unless otherwise specified the anchor bolts shall have a 90° bend with a 6 inch minimum leg length at the lower end. The anchor bolts, nuts and hardened washers shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I. The bolt

**shall be zinc-coated 12 inches from the exposed end, unless otherwise specified. If the anchor bolts are to be used with breakaway devices incorporating the function of a nut, for example, longitudinally grooved breakaway couplings, nuts or washers will not be required.**

**Alternate materials, grades, and designs may be used for anchor bolts subject to approval of the Fabrication Engineer.”**

720.09 Wood Ornamental Light Standard: Revise this subsection by removing the paragraph beginning with “All bolts shall be” and replacing it with:

**“All bolts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I.”**

720.12 Wood Sign Posts Revise the first sentence so that it reads:

**“Wood sign posts shall be rectangular, straight and sound timber, cut from live growing native spruce, red pine, hemlock, cedar trees or other AWPAs approved species, free from loose knots or other structurally weakening defects of importance, such as shake or holes or heart rot.”**

Revise the third paragraph that starts with “When pressure treated...” so that it reads:

**“All sign posts shall be pressure-treated in accordance with AASHTO M 133 and AWPAs Standard U1, UC4A, Commodity Specification A: Sawn Products.”**

## REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

### ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, 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. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

### II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**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 (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) 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 provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 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 contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its 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, sexual orientation, gender identity, 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, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program 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 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 or other knowledgeable company official.

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 minorities and women.

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 minorities and women 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 minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women 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, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such 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, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure 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 its 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 their avenues of appeal.

#### **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

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). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

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 employees who are minorities and women 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 good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. 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 good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith 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, sexual orientation, gender identity, 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 contracting agency 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 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, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. 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 contracting agency.

#### **8. Reasonable Accommodation for Applicants /**

**Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

#### **9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:**

The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

#### **10. Assurances Required:**

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor 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 recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

**11. 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 the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours 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; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of 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 FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### 1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), 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 issued by the Secretary of Labor under the Copeland Act ([29 CFR part 3](#))), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, 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 must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. 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. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must 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.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), 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 will be sent by the contracting officer by email to [DBAconformance@dol.gov](mailto:DBAconformance@dol.gov). The 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.

(4) In the event the contractor, the laborers or mechanics to be employed in the 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 will, by email to [DBAconformance@dol.gov](mailto:DBAconformance@dol.gov), refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The 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.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* 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 may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as 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, in accordance with the criteria set forth in § 5.28, 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.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

## 2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and 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.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

### 3. Records and certified payrolls (29 CFR 5.5)

*a. Basic record requirements (1) Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

*(2) Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

*(3) Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

*(4) Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

*b. Certified payroll requirements (1) Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

*(2) Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

*(3) Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working 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 [29 CFR part 3](#); and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

*(4) Use of Optional Form WH-347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action 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, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

#### **4. Apprentices and equal employment opportunity (29 CFR 5.5)**

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must 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 determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on 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 this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. 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. 23 CFR 230.111(e)(2). 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 journeyworkers shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

**6. Subcontracts.** The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

**9. Disputes concerning labor standards.** As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 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 U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.** a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

**11. Anti-retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

## **V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. 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 or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)\* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

\* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

### 3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, 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 that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. **Subcontracts.** The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. **Anti-retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

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 contracting agency. 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 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased 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 or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

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 or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI 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. Pursuant to 23 CFR 635.116(c), 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 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 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 contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

## **VII. SAFETY: ACCIDENT PREVENTION**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

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 Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the 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. 23 CFR 635.108.

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 Part 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. 3704). 29 CFR 1926.10.

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. 3704).

## **VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

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, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

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 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

## **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)**

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

## **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

### **1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier 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 first tier 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 first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first 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 entering into this transaction. 2 CFR 180.330.

g. The prospective first tier 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 Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

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. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective 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. 2 CFR 180.325.

\*\*\*\*\*

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-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, 2 CFR 180.800;

(3) 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 (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

\*\*\*\*\*

## **3. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant 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. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

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. 2 CFR 1200.220 and 1200.332.

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 exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

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 is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

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. 2 CFR 180.325.

\* \* \* \* \*

#### **4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

\* \* \* \* \*

#### **XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

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 its bid or proposal that the participant 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.

#### **XII. USE OF UNITED STATES-FLAG VESSELS:**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT  
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS  
ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

## The United States Department of Transportation (USDOT)

### Standard Title VI/Non-Discrimination Assurances

#### DOT Order No. 1050.2A

The Maine Department of Transportation (herein referred to as the "Recipient"), **HEREBY AGREES THAT**, as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation (DOT), through Federal Highway Administration (herein referred to as "FHWA" is subject to and will comply with the following:

#### Statutory/Regulatory Authorities

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 C.F.R. Part 21 (entitled *Non-discrimination In Federally-Assisted Programs Of The Department Of Transportation-Effectuation Of Title VI Of The Civil Rights Act Of 1964*);
- 28 C.F.R. section 50.3 (U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964);

The preceding statutory and regulatory cites hereinafter are referred to as the "Acts" and "Regulations," respectively.

#### General Assurances

In accordance with the Acts, the Regulations, and other pertinent directives, circulars, policy, memoranda, and/or guidance, the Recipient hereby gives assurance that it will promptly take any measures necessary to ensure that:

*"No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity, for which the Recipient receives Federal financial assistance from DOT, including the FHWA.*

The Civil Rights Restoration Act of 1987 clarified the original intent of Congress, with respect to Title VI and other Non-discrimination requirements (The Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973), by restoring the broad, institutional-wide scope and coverage of these non-discrimination statutes and requirements to include all programs and activities of the Recipient, so long as any portion of the program is Federally assisted.

### **Specific Assurances**

More specifically, and without limiting the above general Assurance, the Recipient agrees with and gives the following Assurances with respect to its Federally assisted **FHWA Program**.

1. The Recipient agrees that each "activity," "facility," or "program," as defined in §§ 21.23(b) and 21.2(e) of 49 C.F.R. § 21 will be (with regard to an "activity") facilitated, or will be (with regard to a "facility") operated, or will be (with regard to a "program") conducted in compliance with all requirements imposed by, or pursuant to the Acts and the Regulations.
2. The Recipient will insert the following notification in all solicitations for bids, Requests For Proposals for work, or material subject to the Acts and the Regulations made in connection with all **FHWA Programs** and, in adapted form, in all proposals for negotiated agreements regardless of funding source:

*"The **Maine Department of Transportation**, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award."*

3. The Recipient will insert the clauses of Appendix A and E of this Assurance in every contract or agreement subject to the Acts and the Regulations.
4. The Recipient will insert the clauses of Appendix B of this Assurance, as a covenant running with the land, in any deed from the United States affecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a Recipient.
5. That where the Recipient receives Federal financial assistance to construct a facility, or part of a facility, the Assurance will extend to the entire facility and facilities operated in connection therewith.
6. That where the Recipient receives Federal financial assistance in the form, or for the acquisition of real property or an interest in real property, the Assurance will extend to rights to space on, over, or under such property.
7. That the Recipient will include the clauses set forth in Appendix C and Appendix D of this Assurance, as a covenant running with the land, in any future deeds,

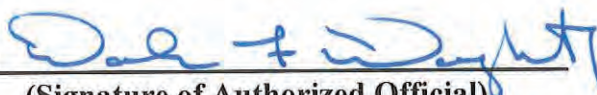
leases, licenses, permits, or similar instruments entered into by the Recipient with other parties:

- a. for the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and
  - b. for the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.
8. That this Assurance obligates the Recipient for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the Assurance obligates the Recipient, or any transferee for the longer of the following periods:
  - A. the period during which the property is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or
  - b. the period during which the Recipient retains ownership or possession of the property.
9. The Recipient will provide for such methods of administration for the program as are found by the Secretary of Transportation or the official to whom he/she delegates specific authority to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Acts, the Regulations, and this Assurance.
10. The Recipient agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the Acts, the Regulations, and this Assurance.

By signing this ASSURANCE, **Maine Department of Transportation** also agrees to comply (and require any sub-recipients, sub-grantees, contractors, successors, transferees, and/or assignees to comply) with all applicable provisions governing the **FHWA's** access to records, accounts, documents, information, facilities, and staff. You also recognize that you must comply with any program or compliance reviews, and/or complaint investigations conducted by the **FHWA**. You must keep records, reports, and submit the material for review upon request to **FHWA** or its designee in a timely, complete, and accurate way. Additionally, you must comply with all other reporting, data collection, and evaluation requirements, as prescribed by law or detailed in program guidance.

**Maine Department of Transportation** gives this ASSURANCE in consideration of and for obtaining any Federal grants, loans, contracts, agreements, property, and/or discounts, or other Federal-aid and Federal financial assistance extended after the date hereof to the recipients by the U.S. Department of Transportation under the **FHWA Programs**. This ASSURANCE is binding on the State of Maine, other recipients, sub-recipients, sub-grantees, contractors, subcontractors and their subcontractors, transferees, successors in interest, and any other participants in the **FHWA Programs**. The person(s) signing below is authorized to sign this ASSURANCE on behalf of the Recipient.

**Maine Department of Transportation**  
**Dale F. Doughty, Acting Commissioner**  
(Name of Recipient)

By:   
(Signature of Authorized Official)

Dated: 3-27-25

## APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration (FHWA)**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **FHWA** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **FHWA** as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **FHWA** may determine to be appropriate, including, but not limited to:

- a. withholding payments to the contractor under the contract until the contractor complies; and/or
  - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

## APPENDIX B

### CLAUSES FOR DEEDS TRANSFERRING UNITED STATES PROPERTY

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4:

**NOW, THEREFORE**, the U.S. Department of Transportation as authorized by law and upon the condition that the **Maine Department of Transportation** will accept title to the lands and maintain the project constructed thereon in accordance with all requirements imposed by Title 49, Code of Federal Regulations, Department of Transportation, subtitle A, Office of the Secretary, part 21, Non-discrimination in Federally-assisted Programs of the Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), the Regulations for the Administration of **Federal Highway Administration (FHWA) Program**, and the policies and procedures prescribed by the **FHWA** of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the **Maine Department of Transportation** all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

#### (HABENDUM CLAUSE)

**TO HAVE AND TO HOLD** said lands and interests therein unto **Maine Department of Transportation** and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the **Maine Department of Transportation**, its successors and assigns.

The **Maine Department of Transportation**, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]\* (2) that the **Maine Department of Transportation** will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non- discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended[, and (3) that in the event of breach of any of the above-mentioned non-discrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation

and its assigns as such interest existed prior to this instruction].\*

(\*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

## APPENDIX C

### CLAUSES FOR TRANSFER OF REAL PROPERTY ACQUIRED OR IMPROVED UNDER THE ACTIVITY, FACILITY, OR PROGRAM

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the **Maine Department of Transportation** pursuant to the provisions of Assurance 7(a):

- A. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:
  1. In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
- B. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Non-discrimination covenants, **Maine Department of Transportation** will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued.\*
- C. With respect to a deed, in the event of breach of any of the above Non-discrimination covenants, the **Maine Department of Transportation** will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the **Maine Department of Transportation** and its assigns.\*

(\*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

## APPENDIX D

### CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by **Maine Department of Transportation** pursuant to the provisions of Assurance 7(b):

- A. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.
- B. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non-discrimination covenants, **Maine Department of Transportation** will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.\*
- C. With respect to deeds, in the event of breach of any of the above Non-discrimination covenants, **Maine Department of Transportation** will there upon revert to and vest in and become the absolute property of **Maine Department of Transportation** and its assigns.\*

(\*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

## APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

### **Pertinent Non-Discrimination Authorities:**

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure

compliance with Title VI, you must take reasonable steps to  
-ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).



## Environmental Summary Sheet

**WIN:** 21812.00  
**Town:** Pittsfield, Route 11/100  
**CPD Team Leader:** Joshua Brown  
**ENV Field Contact:** Samuel Butler

**Date Submitted:** 6/11/2025

**NEPA Complete:** Re-certification of Programmatic Categorical Exclusion (CE) 23 CFR 771.117.c.26 issued on 6/11/2025

### Section 106

Review Complete: No Effect 6/9/2025  
Section 106 Resources: none

### Section 4(f) and 6(f)

Section 4(f)  
No properties

Section 6(f)  
No properties

### Maine Department of Inland Fisheries and Wildlife Essential Habitat

**Species of Concern:** Species of concern designation not present at the projects site.

### Section 7

**Species of Concern:** Atlantic Salmon – No Effect

### Essential Fish Habitat

NA

### Maine Department of Agriculture, Conservation, and Forestry

Public Lands, Submerged Land Lease: NA  
Maine Land Use Planning Commission: NA

### Maine Department of Environmental Protection

NA

### Army Corps of Engineers: Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

NA

### Stormwater Review

NA, due to scope

### Hazardous Materials Review

NA, based on scope

### Special Provisions Required

**Special Provision 105-Environmental Requirements**

N/A ☐ Applicable ☒

**Special Provision 203-Dredge material**

N/A ☒ Applicable ☐

**Standard Specification 656-Erosion Control Plan**

N/A ☐ Applicable ☒

**Special Provision 656-Minor Soil Disturbance**

N/A ☐ Applicable ☐

**Special Provision 203-Dredge Spec**

N/A ☐ Applicable ☐