

**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:** (\_\_\_\_) \_\_\_\_\_

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# 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 MAINE DOT COMMITMENT CONFIRMATION 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 Commitment Confirmation form in its entirety for itself and each subcontractor on that project.

### SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

#### Section A:

1. Insert 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 or 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 Contractor/Sub-Contractor
- G. Enter the Proposed amount of payment (Bid amount) for each Contractor/Sub-Contractor.

Maine Department of Transportation  
COMMITMENT CONFIRMATION

Section A. Bidder/Prime Contractor Information.

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

1. Prime Contractor Name:		2. Federal Project WIN:		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

A. Firm's Name & Address, Including Zip Code Prime must be listed first	B. Annual Gross Receipt Bracket Select 1 to 7*	C. Status DBE or Non-DBE	D. NAICS Code(s) and Scope of Work	E. Race & Gender of each Firm's Majority Owner	F. Age of Each Firm	G. Proposed Amount

\*1) Less Than \$1M, 2) \$1 - \$3M, 3) \$3 - \$6M, 4) \$6 - \$10M, 5) \$10 - \$20M, 6) \$20 - \$50M, 7) Greater Than \$50M - More than 5 Subs use a new form

MaineDOT Use Only:

Form Received: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Verified by: \_\_\_\_  
FHW A ☐ FTA ☐ FAA ☐

For a complete list of certified DBE firms please visit: <http://www.maine.gov/mdot/civilrights/>

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>

**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)

## 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 installation of a traffic signal at the intersection of Route 1, Cross Road and Cochran Road in the town of EDGECOMB" 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 April 16, 2025 and at that time and place, publicly opened and read. Bids will be accepted from all bidders. The lowest responsive bidder must demonstrate previous successful completion of projects of a similar size and scope 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. 2778600 WIN 027786.00

Location: In Lincoln County, the intersection of Route 1, Cross Road and Cochran Road is located approximately 0.27 of a mile easterly of Englebrekt Road.

Scope of Work: Install a traffic signal at the intersection of Route 1, Cross Road and Cochran Road plus other incidental work.

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 **Project Manager Aurele Gorneau II** 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 **\$8.00 (\$11.50 by mail)**. Half size plans **\$4.00 (\$6.25 by mail)**, Bid Book \$10 (\$13 by mail), Single Sheets \$2, payment in advance, all non-refundable.

Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of 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.

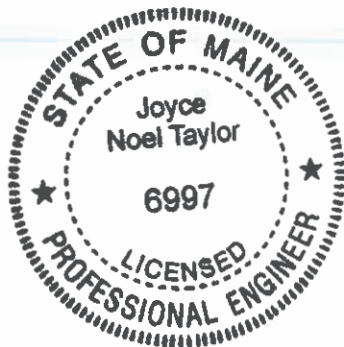
This Contract is subject to all applicable Federal Laws. This contract is subject to compliance with the Disadvantaged Business Enterprise program requirements as set forth by the Maine Department of Transportation.

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  
March 26, 2025

JOYCE NOEL TAYLOR P. E.  
CHIEF ENGINEER



3/17/2025

## Maine Department of Transportation

## Proposal Schedule of Items

Page 1 of 4

Proposal ID: 027786.00

Project(s): 027786.00

SECTION: 1 INITIAL GROUP

Alt Set ID: Alt Mbr ID:

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

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0010	403.1021 TEXTURED ASPHALT PAVEMENT	590.000 SY	_____	_____	_____	_____
0020	615.07 LOAM	5.000 CY	_____	_____	_____	_____
0030	618.14 SEEDING METHOD NUMBER 2	1.000 UN	_____	_____	_____	_____
0040	619.12 MULCH	1.000 UN	_____	_____	_____	_____
0050	626.11 PRECAST CONCRETE JUNCTION BOX	3.000 EA	_____	_____	_____	_____
0060	626.21 METALLIC CONDUIT	50.000 LF	_____	_____	_____	_____
0070	626.22 NON-METALLIC CONDUIT	60.000 LF	_____	_____	_____	_____
0080	626.38 GROUND MOUNTED CABINET FOUNDATION	1.000 EA	_____	_____	_____	_____
0090	627.733 4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	3,400.000 LF	_____	_____	_____	_____
0100	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	450.000 SF	_____	_____	_____	_____
0110	627.77 REMOVING PAVEMENT MARKINGS	850.000 SF	_____	_____	_____	_____
0120	629.05 HAND LABOR, STRAIGHT TIME	10.000 HR	_____	_____	_____	_____

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## Maine Department of Transportation

## Proposal Schedule of Items

Page 2 of 4

Proposal ID: 027786.00

Project(s): 027786.00

SECTION: 1 INITIAL GROUP

Alt Set ID: Alt Mbr ID:

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

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0130	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	10.000 HR	_____	_____	_____	_____
0140	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	10.000 HR	_____	_____	_____	_____
0150	631.18 CHAIN SAW RENTAL (INCLUDING OPERATOR)	10.000 HR	_____	_____	_____	_____
0160	639.20 FIELD OFFICE TYPE C	1.000 EA	_____	_____	_____	_____
0170	643.21 NON-INVASIVE DETECTION - STOP LINE: ROUTE 1, CROSS RD. AND COCHRAN RD.	LUMP SUM	LUMP SUM		_____	_____
0180	643.22 NON-INVASIVE DETECTION - ADVANCE: ROUTE 1, CROSS RD. AND COCHRAN RD.	LUMP SUM	LUMP SUM		_____	_____
0190	643.80 TRAFFIC SIGNALS AT ROUTE 1, CROSS RD. AND COCHRAN RD.	LUMP SUM	LUMP SUM		_____	_____
0200	645.106 DEMOUNT REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	26.000 EA	_____	_____	_____	_____
0210	645.108 DEMOUNT POLE	11.000 EA	_____	_____	_____	_____
0220	645.116 REINSTALL REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	11.000 EA	_____	_____	_____	_____

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## Maine Department of Transportation

## Proposal Schedule of Items

Page 3 of 4

Proposal ID: 027786.00

Project(s): 027786.00

SECTION: 1 INITIAL GROUP

Alt Set ID:

Alt Mbr ID:

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

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0230	645.118 REINSTALL POLE	2.000 EA				
0240	645.292 REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE II	90.000 SF				
0250	645.517 RED SIGNAL AHEAD ADVANCED WARNING SYSTEM	LUMP SUM		LUMP SUM		
0260	652.33 DRUM	40.000 EA				
0270	652.34 CONE	40.000 EA				
0280	652.35 CONSTRUCTION SIGNS	400.000 SF				
0290	652.361 MAINTENANCE OF TRAFFIC CONTROL DEVICES	LUMP SUM		LUMP SUM		
0300	652.38 FLAGGER	460.000 HR				
0310	652.381 TRAFFIC OFFICER	60.000 HR				
0320	652.41 PORTABLE CHANGEABLE MESSAGE SIGN	4.000 EA				
0330	654.351 CONNECTED ROADSIDE UNIT (RSU)	1.000 EA				
0340	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM		LUMP SUM		

## Maine Department of Transportation

## Proposal Schedule of Items

Page 4 of 4

**Proposal ID:** 027786.00

**Project(s):** 027786.00

**SECTION: 1** INITIAL GROUP

Alt Set ID: Alt Mbr ID:

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

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0350	659.10 MOBILIZATION	LUMP SUM	LUMP	SUM		
Section: 1			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 027786.00 for Install a traffic signal at the intersection of Route 1, Cross Road and Cochran Road** in the town of **Edgecomb** County of **Lincoln** 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 **May 20, 2026**. 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 \_\_\_\_\_

\$\_\_\_\_\_ 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 the Federal Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

**F. Offer.**

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications 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 027786.00 – Install a traffic signal at the intersection of Route 1, Cross Road and Cochran Road – in the town of Edgecomb**

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  
of the Contractor)

\_\_\_\_\_  
Witness

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

**G. Award.**

Your offer is hereby accepted.  
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_  
Date

\_\_\_\_\_  
By: Bruce A. Van Note, 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 027786.00 for Install a traffic signal at the intersection of Route 1, Cross Road and Cochran Road** in the town of **Edgecomb** County of **Lincoln** 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 **May 20, 2026**. 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 \_\_\_\_\_

\$\_\_\_\_\_ 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 the Federal Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

**F. Offer.**

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications 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 027786.00 – Install a traffic signal at the intersection of Route 1, Cross Road and Cochran Road – in the town of Edgecomb**

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  
of the Contractor)

\_\_\_\_\_  
Witness

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

**G. Award.**

Your offer is hereby accepted.  
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_  
Date

\_\_\_\_\_  
By: Bruce A. Van Note, 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 .....

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 .....

.....



# MAP - 27786.00



The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch.

0.1  
Miles  
1 inch = 0.14 miles

Date: 3/7/2025  
Time: 1:17:55 PM  
34



<p>MaineDOT DBE Project Attainment Target (PAT) for this Project is <u>.052 %</u></p>
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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.

Superseded General Decision Number: ME20240039

State: Maine

Construction Type: Highway

County: Lincoln 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

ENGI0004-022 04/01/2024



	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Grader/Blade, Milling		
Machine.....	\$ 28.60	13.80

-----  
SUME2014-034 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.....	\$ 15.47 **	2.13
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).....	\$ 21.46	8.78
OPERATOR: Screed.....	\$ 19.02	4.82
OPERATOR: Roller (Earth).....	\$ 16.43 **	3.40
OPERATOR: Roller Asphalt.....	\$ 21.97	7.81
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 issues.

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

**MEETING**

A Preconstruction Utility Conference, as defined in Subsection 104.4.6 of the Standard Specifications is **NOT** required.

**GENERAL INFORMATION**

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

Utilities have been notified and will be furnished a project specification.

The Contractor shall give all Utilities **ten (10) working days' notice** prior to beginning **ANY** work on this project.

**OVERVIEW**

Utility	Aerial	Subsurface	Contact Person	Contact Phone
Central Maine Power Company	X		Randall Bryant	(207) 530-7388
Charter Communications, Inc.	X		Joan Wheeler	(207) 620-3355
Consolidated Communications of Northern New England Co (owner)	X	X	Ryan Beliveau	(401) 263-2218
Town of Edgecomb	X		Michael Maxim	(207)350-0924
FirstLight Fiber	X		Jarrold Smith	(603) 396-1100
Lincolntonville Communications, LCI	X		Jim Corbett	(207) 563-9940
State of Maine	X		Harold Tower	(207)592-0763

Temporary utility adjustments are **NOT** anticipated. If any unexpected utility relocations become necessary, they shall be scheduled in accordance with Section 104 of the Standard Specifications and shall be performed by the appropriate utility company in conjunction with the work by the Contractor. Should the Contractor choose to have any poles temporarily relocated, all work shall be done at the Contractor's request and expense, with no additional cost or schedule impacts to the Department.

Unless otherwise specified, any underground 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. Underground 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.

All adjustments are to be made by the respective utility/railroad unless otherwise specified herein. Fire hydrants shall not be disturbed until all necessary work has been accomplished to provide proper fire protection.

***\*\* Specific information regarding the line voltage can be requested from Central Maine Power Co. \*\****

Utility working days are Monday through Friday.

### **AERIAL**

Aerial Utility adjustments are **not** anticipated at this time for the project. Though unexpected, if utility relocations become necessary, they will be scheduled in compliance with Section 104 of the Standard Specifications and will be done by the utilities after the Contractor has finished their work. Aerial utilities require **ten (10) working days' notice** prior to any operations involving work around their lines.

#### ***Utility Specific Issues:***

**All Communication facilities are to be transferred from Pole CMP #3{14}\95\>34\314\83 to Pole #3{14}\CCI 95 then the old pole (CMP 3{14}\95\>34\314\83) is to be removed by the pole owner Consolidated Communications of Northern New England Company LLC. The utilities will coordinate the sequence of transfers in a timely manner.** (CMP has indicated their records show the pole designation on the corner of U.S. Route 1/Atlantic Highway and Cross Road is referred to as number "314".)

**Charter Communications, Inc., Central Maine Power Company, FirstLight Fiber, Lincolnville Communications, LCI** all have aerial facilities on the project. ***All communication facilities shall be transferred from the old pole to the new pole.*** This work will not impact the project expectations.

#### **Consolidated Communications of Northern New England Company LLC (CCI)**

Consolidated Communications of Northern New England Company LLC (CCI) has aerial facilities on the project. After transferring all lines from the old pole to the new pole, CCI will remove **1 pole** as part of this project.

#### **The Town of Edgecomb OR the State of Maine**

Aerial signals and cables for traffic signals are within the project's limits. The Contractor will coordinate with the Town of Edgecomb's Michael Maxim [selectboard@edgecomb.org](mailto:selectboard@edgecomb.org) (207) 350-0924 **OR** the State of Maine's Harold Tower (207) 592-0763 [Harold.Tower@maine.gov](mailto:Harold.Tower@maine.gov) to facilitate the service orders with Central Maine Power Company.

In general, all 120/240-volt upgrade projects will require a new electric service order with Central Maine Power Company. The Contractor shall provide the, at minimum, following information with the new electric service order request (see included forms):

- Municipality
- Nearest address (GPS Coordinates)
- The 7-digit meter number of the closest meter to the pole that is associated with each traffic signal location
- Type of Service Requested (above or below ground)
- Voltage
- Amperage
- Pole number of the existing power supply

- Electrician's name, phone number, and license number performing the work
- Distance from the pole to the control box

### **SUBSURFACE**

There **are** subsurface utilities within this road project segment, however, utility adjustments are **not** anticipated in order to complete the scope of this project.

#### ***Utility Specific Issues:***

#### **Consolidated Communications of Northern New England Co (CCI)**

CCI has underground facilities encased in a conduit along this corridor. The Contractor shall give CCI **10 working days** advance notice prior to any operations involving work around any of their line.

### **MAINTAINING UTILITY LOCATION MARKINGS**

The Contractor will be responsible for maintaining the buried utility location markings following the initial locating 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.

	<b>NEW POWER ACCOUNT REQUEST INFO FORM</b>
Town located in:	
Nearest pole number	
Nearest Meter number:	
Above or underground service:	
Type of Service Requested	
Voltage:	
Amperage:	
Pole number take off:	
Electrician name and Telephone number:	
Electrician License #:	
Follow-up Contact Person for Company to Call for more Information	
MDOT Project Manager	
GPS coordinates for new service	
What will power feed?	
Nearest physical address?	





An Avangrid company

Thank you for your interest in CMP Area Lighting,

CMP is proud to offer energy efficient lighting solutions designed to illuminate your home, driveway or any area you choose. There are no up-front costs for an Area Light; CMP offers free installation, maintenance and automatic dusk-to-dawn control with the convenience of an Area Light usage fee included on your existing CMP invoice.

### It is easy as 1,2,3. Here's how to add an Area Light to your property

- 1 Select a light**  
Enclosed you'll find an Area Light flyer showing our available lights on pages 6 - 8. Typical residential lights are the Cobrahead 19 and 26 LED or the 15-25 watt Open LED. *Please note that costs shown are average monthly costs excluding taxes and surcharges.*
- 2 Review Terms and Conditions, sign Area Light Agreement**  
Complete the Area Light Agreement on page 2, fill-in all necessary columns, one row per light fixture request, indicate if it is an install, or removal. Then date and sign page 2, review the terms and conditions on page 3, and initial in the upper right corner to the agreement. We'll take it from there. A final copy will be sent to you.
- 3 Sketch the proposed light location**  
Show us where you would like the Area Light(s) to reside on the provided sketch on page 4. We've provided a sample sketch on page 5 as a guide to create your own sketch. Don't worry if you're not an artist.

### What is needed for the sketch

- Show roadways, distance to nearest intersection or road, and existing utility poles (including line and pole number(s)) and indicate where you would like the light to reside.
- Pole number(s) are the tags found on the utility pole at eye level, see page 9 for examples. Provide as much information as you can find; some poles may have one, or more tags or no tags at all.
- Indicate North on the sketch and any other particulars that will help our engineers process your request.
- Note your town's official E911 address for the property.

Please email your completed application, sketch and photos (if taken) to CMP's Outdoor Lighting group at [OutdoorLighting@cmpco.com](mailto:OutdoorLighting@cmpco.com). If you do not have access to email, you can mail the completed packet to: CMP, Attn: Outdoor Lighting Dept., 740 Main Street, Lewiston, ME 04240.

If you have questions, you may visit us at [cmpco.com/OutdoorLighting](http://cmpco.com/OutdoorLighting). Or call 800.750.4000 to set up an appointment with one of our Outdoor Lighting Specialist(s), Monday - Friday, 7:30 a.m. - 6 p.m.

Residential Customers 800.750.4000 / Commercial Customers 800.565.3181

*Area Light requests usually take four to eight weeks to process. For lights on existing approved poles, we require customers to commit to having an Area Light in place for fifteen (15) years. A CMP Representative may need to visit the location to verify placement of the Area Light(s).*

# Agreement for Area Lighting

Pole #	Street Address	Fixture Type	Lamp Type	Watts	Install	Remove	Delivery +/-
201	123 Sample Street	Flood	LED	64-85	X		0.00
Customer Name			Account Number				
Phone Number			Email Address				
Mailing Address ( <i>If different than above</i> )							
Town Name			Road Name				
Central Maine Power Company (CMP) and the undersigned Customer agree to the Terms and Conditions. The parties have indicated their acceptance of the terms of this Agreement by signing below or having their duly authorized representative sign below on their behalf.							
<b>Central Maine Power Company</b>			<b>Customer</b>				
By			Date				
Date			Printed Name				
Town Code	District		Title				
Rd Code	Circuit Rd Name		Signature				
Notes							



# Terms and Conditions

Initial: \_\_\_\_\_

CMP will supply and maintain the outdoor lighting service described above in accordance with CMP's rates and Terms and Conditions on file with the Maine Public Utilities Commission as amended from time to time. CMP will give the Customer a copy of CMP's current outdoor lighting Terms and Conditions upon request. CMP will furnish, own and maintain standard distribution-type poles, laminated wood poles, and decorative poles. When such poles are furnished strictly for area lighting, the customer shall pay a special facilities charge. If any light fails to operate, CMP will repair or replace it, at its option, within a reasonable time after the customer gives CMP notice of the light failure.

The Customer will pay the charges for this outdoor lighting service from the date of installation until this Agreement is terminated. The Customer will furnish, own and maintain any poles other than the standard types offered by CMP. The Customer will provide CMP with notice of light fixture failure.

This Agreement shall commence upon signature by both CMP and the Customer and shall continue in effect until fifteen (15) years after installation of the outdoor lighting that is the subject of the Agreement; provided, however, that either party may terminate this Agreement upon thirty (30) days written notice to the other party. After the initial fifteen (15) year term, this Agreement shall continue in effect from month to month, unless either party provides thirty (30) days written notice that it does not wish to continue under this Agreement.

If the Customer terminates this Agreement less than fifteen (15) years after installation, or if the Customer fails to fulfill its obligation under this Agreement and CMP terminates this Agreement as a result thereof, the Customer will pay CMP the unused investment and removal costs of the equipment in accordance with CMP's outdoor Lighting Terms and Conditions. This Agreement shall also terminate if the municipality serving the Customer assumes the obligation for payment of the service described in this Agreement under CMP's Municipal Street Lighting Rate SL, by having an appropriate municipal official give CMP written notice thereof.

All of the facilities furnished by CMP are personal property and CMP shall retain title to them. CMP shall have reasonable time after termination of this agreement to remove these facilities.

The Customer will release, defend (at CMP's option), indemnify, and hold harmless CMP and its directors, officers, employees, contractors, agents, affiliates, successors and assign, from and against any and all liability, claim, cost and expense of any kind or nature, arising out of or related to the use or presence of the facilities on the Customer's premises. This obligation shall survive termination of this Agreement.

The provisions of this Agreement shall inure to and be binding on the parties' respective heirs, executors, administrators, and successors and assigns.

The parties reserve the right to amend this Agreement at any time to comply with any ruling or decision of any governmental body.

## **Additional Provisions for Underground Service**

CMP will supply underground service for street and area lighting only in commercial developments, and, in conjunction with underground residential distribution, in housing developments and mobile home parks.

The Customer shall: (a) excavate and backfill the trench and provide all necessary duct lines and conduit; (b) contribute toward the initial cost of the underground feed in excess of 125 feet per light per circuit, measured from the base of the pole, in accordance with CMP's filed Terms and Conditions, and reimburse CMP for all necessary maintenance and repairs for the entire length of underground feed, (CMP will own the entire length of the underground feed, including the length over 125 feet).

CMP will also connect to customer-owned underground installations conforming to CMP specifications and will provide luminaries and brackets on customer-owned poles at the monthly rate contained in CMP's filed terms and conditions after installation, CMP will own underground line and maintain it. All of the Terms and Conditions for CMP installed lines shall apply, except the Customer shall be responsible for full cost of installation.

# Residential Area Lighting Sketch

Customer Name	
Account Number	
Billing Address	
Service Location	Date
<ul style="list-style-type: none"> <li>Please draw a sketch of your property showing the street/road, driveway and house.</li> <li>Show the location of the pole, the Area Light(s) to be installed, and in the comments section include the direction the Area Light(s) should point.</li> <li>Please include an arrow showing which direction is North.</li> </ul> <p><i>Note: Area Light(s) can be installed only on CMP poles or CMP approved customer poles. They cannot be installed on customer buildings or structures.</i></p> <ul style="list-style-type: none"> <li>Take a picture of the drawing with your cell phone and email back the attached photo.</li> </ul>	
<p>Please use these symbols: (Sample sketch is shown on next page.)</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <p>Area Light Showing orientation direction.</p> </div> <div style="text-align: center;"> <p>Existing Pole</p> </div> <div style="text-align: center;"> <p>New Pole</p> </div> </div>	

Remarks/Comments/Special Installation Instructions:

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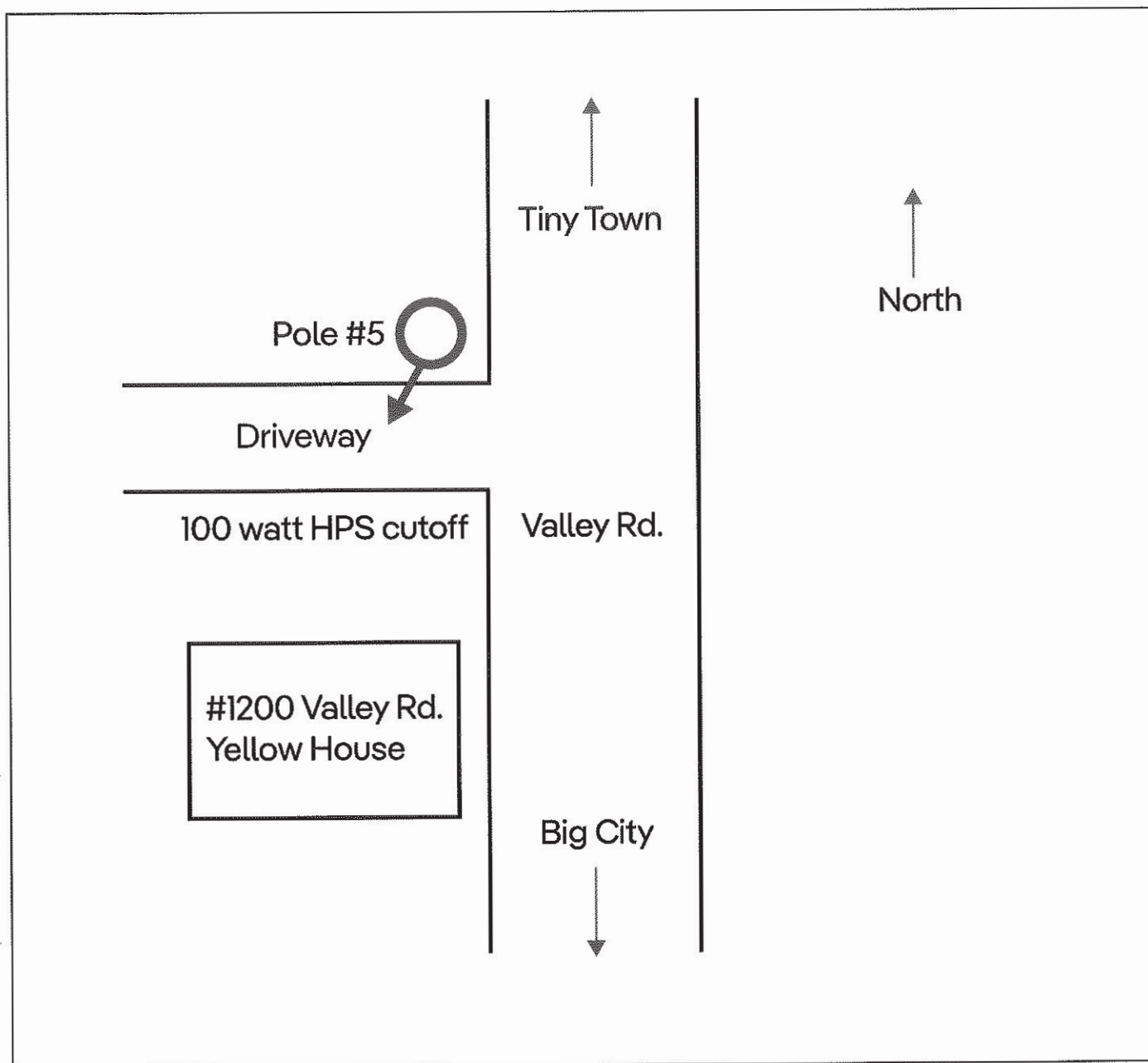


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# Sample Sketch



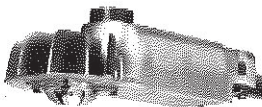
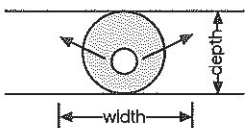
Remarks/Comments/Special Installation Instructions:

**Please install a 100 watt HPS cutoff on pole 5, perpendicular to the driveway entrance.**

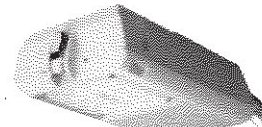
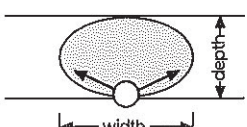


# CMP's Area Lighting

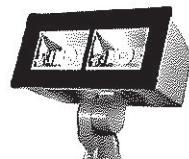
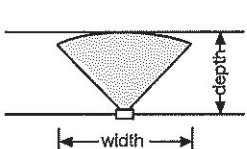
CMP's Street Lights provide safety, security and visibility at affordable monthly lease prices. Cost includes installation, maintenance, and CMP delivery charges, but does not include supply costs. Contact us at [OutdoorLighting@cmpco.com](mailto:OutdoorLighting@cmpco.com) or call 800.750.4000 to set up an appointment with one of our Outdoor Lighting Specialists.

Open	Distribution Pattern	Light Type	Watts	Rated Lumens	Monthly Delivery Rate	Estimated Annual Cost
		LED	15-25	2,800	\$8.00	\$96.00


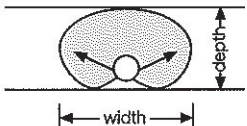
Great for general lighting needs for business and homes, including roadside businesses and suburban or rural homes and yards.

CobraHead/Cutoff	Distribution Pattern	Light Type	Watts	Rated Lumens	Monthly Delivery Rate	Estimated Annual Cost
		LED	19	2,000	\$928	\$111.36
		LED	26	3,000	\$9.51	\$114.12
		LED	44	4,500	\$10.30	\$123.60
		LED	66	6,700	\$11.09	\$133.08
		LED	85	10,000	\$13.11	\$157.32
		LED	166	15,000	\$22.70	\$272.40

High performance energy efficient solution for roadways, off ramps, and residential streets.

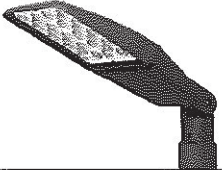
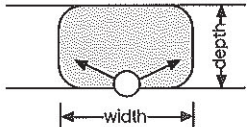

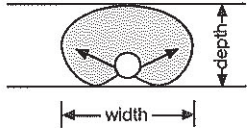

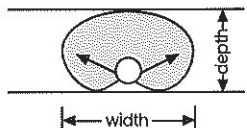
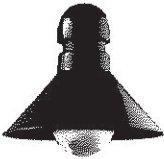
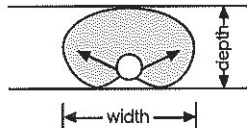

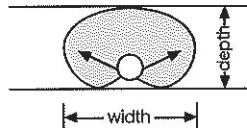
Flood	Distribution Pattern	Light Type	Watts	Rated Lumens	Monthly Delivery Rate	Estimated Annual Cost
		LED	64-85	10,122	\$14.09	\$169.08
		LED	96-128	16,628	\$15.86	\$190.32
		LED	207-261	32,001	\$26.74	\$320.88


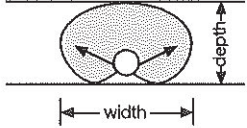
Ideal for parking lots, building security, building facades, storage yards, and other areas needing directional lighting.

Shoebox (Decashield)	Distribution Pattern	Light Type	Watts	Rated Lumens	Monthly Delivery Rate	Estimated Annual Cost
		LED	42-57	6,982	\$12.34	\$148.08
		LED	91-131	16,832	\$15.85	\$190.20

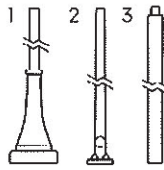
Good for parking and auto lots that are wider than they are long. Underground electric service required.



Mongoose	Distribution Pattern	Light Type	Watts	Rated Lumens	Monthly Delivery Rate	Estimated Annual Cost
		LED	93-129	15,763	\$24.49	\$293.88
Best for roadways and parking lots, where light trespass could be a problem. Fixture includes a tilt feature which provides forward throw illumination, which projects light up to 50' from fixture pole. Underground electric service required						
Esplanade	Distribution Pattern	Light Type	Watts	Rated Lumens	Monthly Delivery Rate	Estimated Annual Cost
		LED	45-59	6,700	\$36.66	\$439.92
Styling from early in this century, with precision optical system for modern street lighting performance. Can be attached to standard wood utility pole, or underground electric service.						
Acorn (Granville)	Distribution Pattern	Light Type	Watts	Rated Lumens	Monthly Delivery Rate	Estimated Annual Cost
 Cooper LED "ULA"		LED	35-51	5,863	\$13.55	\$162.60
Combines a distinctive architectural heritage with high-design standards and prismatic light control for maximum efficiency. Requires underground electric service.						
Hallbrook	Distribution Pattern	Light Type	Watts	Rated Lumens	Monthly Delivery Rate	Estimated Annual Cost
		LED	35-51	5,000	\$32.55	\$393.36
Sleekly-styled luminaire designed to meet the aesthetic and architectural qualities desired in decorative street and area lighting. Requires underground electric service.						
Radial Wave	Distribution Pattern	Light Type	Watts	Rated Lumens	Monthly Delivery Rate	Estimated Annual Cost
 Side Entry		LED	15-25	2,800	\$23.26	\$279.12
The ornamental radial wave fixture recaptures a tradition from decades ago. Can attached to attach to standard wood utility pole or underground electric service.						

Colonial (Post Top)	Distribution Pattern	Light Type	Watts	Rated Lumens	Monthly Delivery Rate	Estimated Annual Cost
		LED	35-51	4,510	\$12.06	\$144.72

The ornamental post top fixture recaptures a tradition from decades ago. Requires underground electric service.

Pole Options	Used For	Height
	1. Hallbrook	Esplanade or Hallbrook fixtures
	2. Tapered (Aluminum)	Granville or Colonial (Post Top)
	3. Laminated (Wood Pole)	Colonial (Post Top)

Speak with our Outdoor Lighting Specialist for the best pole option.

Miscellaneous	Monthly Delivery Rate	Estimated Annual Cost
Additional Wood Pole	30' or less Wood Pole standard	\$10.47
Bracket	6' and 8' standard	No Charge
Bracket	10' standard	\$2.38

Other light styles, such as non-LED and glare shields are available upon request. Monthly charges do not include taxes or surcharges and will vary based on energy costs and lighting hours.

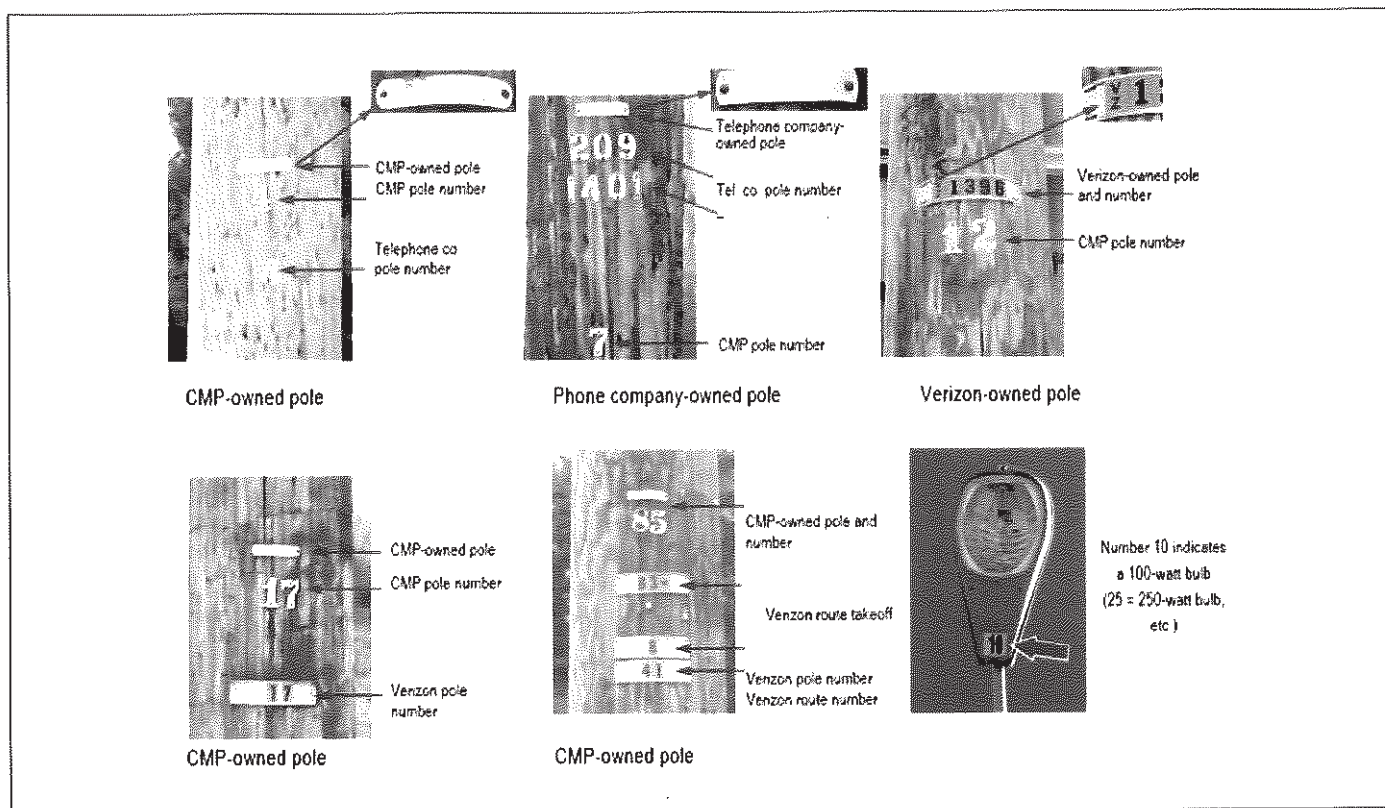


# Area Light Maintenance Reporting Information

We know you're counting on us to keep the lights on. For your convenience, when reporting an area light outage or repair, have all the necessary information listed below ready to help expedite the repair process. Thank you.

- Customer/Contact name and phone number
- Customer account number
- Pole number(s) (see below picture to help you identify pole(s))
- Road or street name (identify landmark or street address)
- Problem(s) with area light(s) such as: burned out bulb, on during the day, light cycling on and off, etc.

**Simple ways to identify poles and fixtures when reporting an area light outage:**



*CMP – reliable, prompt, and courteous service you can always count on.*

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.

**SPECIAL PROVISION 105**  
**GENERAL SCOPE OF WORK**  
**Equal Opportunity and Civil Rights**  
**(Disadvantaged Business Enterprises Program)**

105.10.1.1 Disadvantaged Business Enterprises Program The Maine Department of Transportation (MaineDOT) has established a Disadvantaged Business Enterprise (DBE) program in accordance with regulations of the United States Department of Transportation (USDOT), 49 CFR Part 26. The MaineDOT receives federal financial assistance from USDOT, and as a condition of receiving this assistance, the Department has signed an assurance that it will comply with 49 CFR Part 26. The MaineDOT is responsible for determining the eligibility of and certifying DBE firms in Maine.

A DBE is defined as a for-profit business that is owned and controlled by one or more socially and economically disadvantaged person(s). For the purpose of this definition:

1. “Socially and economically disadvantaged person” means an individual who is a citizen or lawful permanent resident of the United States and who is Black, Hispanic, Native American, Asian, Female; or a member of another group or an individual found to be disadvantaged by the Small Business Administration pursuant to Section 3 of the Small Business Act.
2. “Owned and controlled” means a business which is:
  - a. A sole proprietorship legitimately owned and controlled by an individual who is a disadvantaged person.
  - b. A partnership or limited liability company in which at least 51% of the beneficial ownership interests legitimately are held by a disadvantaged person(s).
  - c. A corporation or other entity in which at least 51% of the voting interest and 51% of the beneficial ownership interests legitimately are held by a disadvantaged person(s).

The disadvantaged group owner(s) or stockholder(s) must possess control over management, interest in capital, and interest in earnings commensurate with the percentage of ownership. If the disadvantaged group ownership interests are real, substantial and continuing and not created solely to meet the requirements of this program, a firm is considered a bona fide DBE.

105.10.1.2 Commercially Useful Function MaineDOT will count expenditures of a DBE contractor toward DBE goals only if the DBE is performing a commercially useful function on that contract. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. Credit will only be given when the DBE meets all conditions for a CUF. Credit for labor will be in accordance with the responsibilities outlined in the contract. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the Contract, for negotiating price, determining quality and quantity, ordering the materials, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, MaineDOT will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the Contract is commensurate with the work it is actually performing and DBE credit claimed for its performance of the work, and other relevant factors.

Rented equipment used by the DBE must not be rented from the Prime Contractor on a job that the DBE is subcontracted with that Prime Contractor for regular course of business.

A current listing of certified DBEs that may wish to participate in the highway construction program and the scope of work for which they are certified can be found at <https://www.maine.gov/mdot/civilrights/dbe/>. Credit will be given for the value described by a DBE performing as:

- A. A prime contractor; 100% of actual value of work performed by own workforces.
- B. An approved subcontractor; 100% of work performed by own workforces.
- C. An owner-operator of construction equipment; 100% of expenditures committed.
- D. A manufacturer; 100% of expenditures committed. The manufacturer must be a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Contractor. Brokers and packagers shall not be regarded as manufacturers.
- E. A regular dealer; 60% of expenditures committed. A regular dealer is defined as a firm that owns, operates, or maintains a store, warehouse or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public. For purposes of this provision a “Broker” is a DBE that has entered into a legally binding relationship to provide goods or services delivered or performed by a third party. Brokers and packagers shall not be regarded as regular dealers.
- F. A bona fide service provider; 100% of reasonable fees or commissions. Eligible services include professional, technical, consultant, or managerial, services and assistance in the procurement of essential personnel, facilities, equipment, materials or supplies required for the performance of the contract. Eligible services also include agencies providing bonding and insurance specifically required for the performance of the contract.
- G. A trucking, hauling or delivery operation. 100% of expenditures committed when trucks are owned, operated, licensed and insured by the DBE and used on the contract and, if applicable, includes the cost of the self supplied materials and supplies. 100% of expenditures committed when the DBE leases trucks from another DBE firm including an owner-operator. 100% of reasonable fees or commissions the DBE receives as a result of a lease arrangement for trucks from a non-DBE, including an owner-operator.
- H. Any combination of the above.

105.10.1.3 Race-neutral Goals The Maine DOT is required to set an annual goal (approved on a three year basis) for DBE participation in Federal-aid projects. In order to fulfill that goal, bidders are encouraged to utilize DBE businesses certified by the MaineDOT. MaineDOT seeks to meet the established DBE goal solely through race-neutral means. *Race-neutral* DBE participation occurs when a DBE is awarded a prime contract through customary competitive procurement procedures, is awarded a subcontract on a contract that does not carry a DBE contract goal, or wins a subcontract from a prime contractor that did not consider its DBE status in making the award. A DBE/subcontractor Utilization Proposed Form is required to be included in bid documents.

MaineDOT will analyze each project and create a Project Availability Target (PAT), based on a number of factors including project scope, available DBE firms, firms certified in particular project work, etc. Each bid will request that the contractor attempt to meet the PAT. This PAT is developed to assist contractors to better understand what the MaineDOT expectations are for a

specific project. The PAT is NOT a mandate but an assessment of what this particular project can bear for DBE participation. The Department anticipates that each contractor will make the best effort to reach or exceed this PAT for the project.

105.10.1.4 Race-conscious Project Goals If it is determined by the Department that the annual DBE goal will not be met through *race-neutral* means, the Department may implement *race-conscious contract goals* on some projects. Race-conscious contract goals are goals that are enforceable by the Department and require that the prime contractor use good faith effort to achieve the goal set by the Department for that particular project. If race conscious means are implemented on a project, the Prime must comply with the requirements of 49 CFR.

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. The list shall show the name of the firm, the item/material/type of work involved and the dollar amount of work to be performed. The dollar total of each commitment shall be totaled and a percentage determined.

If the project goal is not met, acceptable documentation showing all good faith efforts made to obtain participation may be required in order to award the project. Failure to provide the required listing with the dollar participation total or acceptable documentation of good faith efforts to obtain DBE participation within 3 days after the bid opening date will be considered a lack of responsiveness on the part of the low bidder. Rejection of the low bid under these circumstances will require the low bidder to surrender the Proposal Guaranty to the Department. The submission and approval of the above forms does not constitute a formal subcontract.

If for any reason during the progress of the Work the Contractor finds that DBEs included on the list are unable to perform the proposed work, the Contractor, with written release by the committed DBE or approval of the Department, may substitute other DBE firms for those named on the list. If the Contractor is able to clearly document their inability to find qualified substitute firms to meet the project goal, the Contractor may request in writing approval to substitute the DBE with a non-DBE firm. If at any time during the life of the Contract it is determined that the Contractor is not fulfilling the goal or commitment(s) and is not making a good faith effort to fulfill the DBE requirement, the Department may withhold progress payments. If good faith effort is determined by the Department, failure to meet the DBE contract goal will not be a detriment to the bid award. Fulfillment of the goal percentage shall be determined by dividing the dollars committed to the DBEs by the actual contract dollars. These requirements are in addition to all other Equal Employment Opportunity requirements on Federal-aid contracts.

105.10.1.5 Certification of DBE attainment on Contracts The MaineDOT must certify that it has conducted post-award monitoring of all contracts to ensure that DBEs had done the work for which credit was claimed. The certification is for the purpose of ensuring accountability for monitoring which the regulation already requires. The MaineDOT will certify these contracts through review of CUF forms, Elations sub-contract payment tracking as well as occasional on-site reviews of projects and through the project's final closeout documentation provided by our Contracts Section.



105.10.1.6 Bidders' List Survey Pursuant to 49 CFR 26.11 the MaineDOT is required to “create and maintain” a bidders list and gather bidder information on our construction/consultant projects, Contractors will maintain information on all subcontract bids submitted by DBE and Non-DBE firms and provide that information to the Department. The Following information is required:

Firm Name

Firm Address

Firm status (DBE or non-DBE)

Age of firm (years)

And the annual gross receipts amount as indicated by defined brackets, i.e. \$500,000 to \$800,000, rather than requesting exact figures.

Not only is this information critical in determining the availability of DBE businesses relative to other businesses that do similar work, but the Federal Highway Administration requires that we obtain this information.

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

- I. To avoid and minimize potential effects to Federally-endangered bat species all work must comply with the following:
  1. 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.
  2. All clearing must be completed between August 16 and May 31. *Clearing is not allowed from June 1 – August 15.*
- II. To protect migratory birds pursuant to the Migratory Bird Treaty Act of 1918:
  - A. 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.

**SPECIAL PROVISION 105**  
**OVERLIMIT PERMITS**

**Title 29-A § 2382 MRSA Overlimit Movement Permits.**

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Section History:

PL 1993, Ch. 683, §A2 (NEW).

PL 1993, Ch. 683, §B5 (AFF).

PL 1997, Ch. 144, §1,2 (AMD).

PL 1999, Ch. 117, §2 (AMD).

PL 1999, Ch. 125, §1 (AMD).

PL 1999, Ch. 580, §13 (AMD).

PL 2001, Ch. 671, §30 (AMD).

PL 2003, Ch. 166, §13 (AMD).

PL 2003, Ch. 452, §Q73,74 (AMD).

PL 2003, Ch. 452, §X2 (AFF).

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

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

- (a) The section of highway under construction in the Town of Edgecomb, Lincoln County at the intersection of Route 1, Cross Road and Cochran Road.
- (b) (Route 1) station 118+45.00 to station 126+87.00 of the construction plus approaches.
- (c) (Cross Road) station 402+05.00 to the center of the intersection of the construction plus approaches.
- (d) (Cochran Road) center of the intersection to station 501+75.00 of the construction plus approaches.

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 Edgecomb** 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 107**

Time

At least one lane of alternating one-way traffic shall be maintained at all times.  
A minimum lane width of 11'-0" shall be maintained at all times.  
Traffic delays shall not exceed 5 minutes with alternating one-way flow.

All lane closures shall be approved by the Resident.  
Shoulder closures are allowed at all times.

On US Rt 1:

Lane closures will **NOT** be allowed during the following times:

Between contract award and May 23, 2025 –

From 6:30 am to 9:00 am and 3:00 pm to 7:00 pm

After May 26, 2025 to Contract Completion -

From 6:30 am to 7:00 pm

The Contractor will not be allowed to work weekends on the Project, unless otherwise authorized by the Department, or stated elsewhere in the contract documents.

In addition to Section 107, of the Maine Department of Transportation, Standard Specifications, **NO** work will be allowed on the project on the following days:

- May 23, 2025, beginning at 6 a.m. to May 26, 2025, at 8 p.m.
- July 3, 2025, beginning at 6 a.m. to July 6, 2025, at 8 p.m.
- August 29, 2025, beginning at 6 a.m. to September 1, 2025, at 8 p.m.

SPECIAL PROVISION  
SECTION 107  
PROSECUTION AND PROGRESS  
(Contract Time)

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

The completion date is **May 20, 2026**.

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

All travel lanes shall be open to traffic and the roadway in safe operating condition when the contractor suspends work each day, including weekends, holidays or extended periods of time as directed.

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 PROVISION  
SECTION 403  
HOT MIX ASPHALT PAVEMENT  
(Textured Asphalt Pavement w/Color Coating)

403.01 Description

The Contractor shall texture the pavement and color coat at those locations shown on the plans (textured asphalt pavement). Texturing shall meet the requirements of ThermoPrint TM Running Bond Pattern or an approved equal. Work shall include coloring the textured asphalt, a “brick red” color. The template pattern and color shall be submitted and approved by the Department before application begins.

403.03 Construction

The following paragraph is added:

Pavement sealer will not be applied to surfaces to receive stamped, pigmented road treatments. In those areas, pavement sealer will be applied to the top of the base paving layer only.

403.04 Method of Measurement

The Department will measure the quantity of textured asphalt pavement with color coating by the square yard.

403.05 Basis of Payment

Payment for the accepted quantity of textured asphalt pavement with color coating will be made at the contract unit price which will be full compensation for all labor, materials, and incidentals needed to satisfactorily complete the work.

Payment will be made under:

Pay Item

Pay Unit

403.1021 Textured Asphalt Pavement w/Color Coating

Square Yard

SPECIAL PROVISION  
SECTION 643  
TRAFFIC SIGNALS  
(Non-Invasive Detection - Advance)

643.01 Description This item shall consist of furnishing and installing a non-invasive advanced vehicle detection system including all necessary fittings, mounting hardware and appurtenances necessary to provide for a fully operational system at the locations shown on the plans or as indicated by the Maine Department of Transportation (MaineDOT). The purpose of this system is to detect vehicles in the dilemma zone and perform the actions indicated in the specification and/or identified on the plans.

Locations of devices are shown on the plans. Plans indicate approach and dilemma zone location based on speed. All equipment locations shall be field verified by the Resident before installation.

643.02 General All material furnished by the Contractor shall be new unless otherwise specified.

All electrical equipment shall conform to National Electrical Manufacturers Association (NEMA), UL, or EIA standards, wherever applicable. In addition, all materials and workmanship shall conform to the requirement of the Nexcom (NEX), the local electrical Utility Company, and all local ordinances, which may apply.

643.021 Materials The non-invasive advanced vehicle detection system shall include a stand-alone, radar-based detector and an integrated machine processor, Microsoft Windows based configuration software that provides for configuring the non-invasive advance vehicle detection system.

The non-invasive advanced vehicle detection system shall conform to Section 718 of the standard specifications (Traffic Signals Materials).

The use of a hybrid/combination unit to meet the following specifications shall not be allowed. A hybrid/combination unit is defined as a device designed to function using multiple detection technologies.

The interface provided shall provide for the viewing of real time detection data and updating the memory of the non-invasive advance vehicle detection system.

All mounting hardware, Ethernet communications interface panel, Advanced Transportation Controller Cabinet (ATCC) detector interface panel, detector cabling, all associated equipment, software and licenses and miscellaneous fittings, cabinet wiring, and all labor, materials and equipment required to complete the installation shall be included. The non-invasive detection system shall be integrated into the ATCC cabinet and made fully functional. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to satisfy the requirements as defined in these specifications.

All non-invasive advance vehicle detection system components shall be current



production equipment produced by the same manufacturer as otherwise noted herein or approved in advance by MaineDOT. The non-invasive advance vehicle detection system hardware shall operate without degradation over a temperature range of -40 to 165 degrees Fahrenheit at a relative humidity up to 95% non-condensing.

The non-invasive advance vehicle detection system must meet the NEMA 250 Standards for the enclosure, be able to detect vehicles at a minimum of 600 ft distance from the detector and the ability to simultaneously detect and track multiple vehicles. The non-invasive advance vehicle detection system's hardware and software used to setup, configure and communicate must be compatible with the vehicle detection's operating system.

The Contractor shall install the Non-Invasive Detection - Advance processor system software on the cloud-based Central Management System (CMS).

643.031 Construction Requirements. The Contractor shall be responsible for furnishing all training, labor, materials, cables, connectors, tools, equipment, shipping and incidental items necessary to complete the installation and make the non-invasive advance vehicle detection system fully operational.

Installation of the non-invasive advance vehicle detection system shall include the installation of any and all associated equipment including, but not limited to, the following:

- a) Detector Assembly with Integrated Machine Vision Processor. The Contractor shall furnish one assembly per designated approach as indicated in the plans.
- b) Detector Ethernet Communications Interface Panel. The Contractor shall furnish one detector communications interface panel per cabinet.
- c) ATCC Detector Interface Panel. The Contractor shall furnish one detector ATCC detector interface panel per cabinet.
- d) Detector Cable. The Contractor shall furnish the specified cable type, all connectors, sealing tape and incidental work necessary to complete the installation of the connector cable between the detector assembly and the interface panel.
- e) Mounting Brackets and Ancillary Equipment and Labor. The Contractor shall furnish detector mounting brackets and all associated equipment labor, materials and incidental work necessary to attach the detector assemblies to a mast arm or extension bracket, complete the installation and make the non- invasive advance vehicle detection system fully operational.

All equipment shall be installed and wired in a neat and orderly manner in conformance with the manufacturer's instructions. The detector assembly(s) shall be installed attached to a support structure in accordance with the manufacturer's instructions to provide the optimal field of detection as directed by MaineDOT and/or the Engineer.

643.032 Operational Requirements The system shall be able to be configured to extend green or red intervals. Plans will indicate dilemma zone locations by speed and extension lengths for any red interval extensions.

The non-invasive advance vehicle detection zones shown on the plans confirm approach only. Final detection zones shall be located in the field and approved by MaineDOT and/or Engineer. Locations may require adjustment based on prevailing speeds.

643.14 Field Testing Installation will be considered complete when the Contractor shows the system successfully and consistently places a request to the controller to call and extend the appropriate phase based on a vehicle detected in the detection zone; and remote access to the system via MaineDOT control and or the cloud-based CMS.

643.18 Method of Measurement. The non-invasive advance vehicle detection system will be measured for payment as a lump sum fully installed and operational. All materials, equipment, labor, reprogramming, incidentals and testing required to create a fully functional system will be considered incidental to the cost of this item. The item shall be unconditionally warrantied for at least 3 years from installation and certified to comply with the product's published specification by an independent laboratory.

643.19 Basis of Payment. Payment will be full compensation for furnishing, transporting, handling, and installing the materials and equipment specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

<u>Pay Item</u>	<u>Pay Unit</u>
643.22 Non-Invasive Detection - Advance: U.S. Route 1, Cross Road and Cochran Road	Lump Sum

SPECIAL PROVISION  
SECTION 643  
TRAFFIC SIGNALS  
(Non-Invasive Detection – Stop Bar)

643.01 Description. This item shall consist of furnishing and installing a Non-Invasive Stop Bar Vehicle Detection (SBVD) including all necessary fittings and mounting hardware at the locations shown on the plans or as indicated by the Maine Department of Transportation (MaineDOT). The use of 360 degree or fisheye cameras is anticipated for detection. If these cameras are used, two cameras are required.

All equipment locations and detection areas shall be field verified by the Resident.

643.02 General All material furnished by the Contractor shall be new unless otherwise specified.

All electrical equipment shall conform to National Electrical Manufacturers Association (NEMA), UL, or EIA standards, wherever applicable. In addition, all materials and workmanship shall conform to the requirements of the Nexcom (NEX), the local electrical Utility Company, and all local ordinances, which may apply.

643.021 Materials The Contractor shall furnish and install a SBVD system that detects vehicles on a roadway by processing images sent from an IP based sensor to an interface board with detector outputs that can be received by the traffic signal controller.

The SBVD shall include equipment meeting the following requirements:

- i. These IP based traffic sensors shall be installed at the locations shown on the plans and in accordance with these specifications.
- ii. All remote communications for the system shall be routed electronically, and IP based to the Field Monitoring Unit (FMU) or the Fiber Ethernet Switch; the use of a separate cellular modem/data connection shall not be allowed.
- iii. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to satisfy the requirements as defined in these specifications.
- iv. All SBVD units supplied by the Contractor as part of this project shall be from the same manufacturer and be the identical make/model and firmware revision.

The SBVD system shall be non-intrusive (i.e. above ground) and shall consist of:

- i. Mounting brackets
- ii. IP based Traffic sensor and detection module (radar shall provide IP cabinet

- interface device)
- iii. Communications cable

The SBVD system, at a minimum, shall:

- i. Collect and store volume, speed, and classification of all vehicle types as well as bicycles and pedestrians
- ii. Provide stop bar detection
- iii. Be ATCC 5301 v02 compatible
- iv. Be ATC 5201 v06 compatible
- v. Provide Turning Movement counts through either manufactures' software or as inputs into the MaineDOT Central Management Software (CMS)
- vi. Provide remote access to digital video stream
- vii. Support remote configuration
- viii. Shall be connected to FMU switchable power outlet

The SBVD system shall be connected, via Ethernet, to the Fiber Ethernet switch or FMU in each Advanced Transportation Controller Cabinet (ATCC), and to the cloud-based video management server over the cellular modem.

If the ATCC is supplied with a Fiber Ethernet Switch and connected to the existing City fiber network, the Contractor shall establish a Virtual Private Network (VPN) communication pathway with input from the City IT department to allow for remote monitoring and control.

As a minimum, the SBVD system shall be supplied and installed with the following functionality:

- i. Shall have the capability of remotely displaying live video streams and/or live radar telemetry from all IP video/radar detection units installed at the intersections. The setup of detection zones shall be available via remote access. The system shall log which user made any changes to the detection zone configurations.
- ii. Shall support communication of Telemetry Data, Video Data, Alert Data, and Vehicle Identification Data to the Server via the Communication Service.
- iii. Shall be connected to the Ethernet Switch and/or the FMU in each ATCC.
- iv. Shall acquire and record phase, channel, detector, pedestrian detector, pre-emption, alarm and overlap statuses at a frequency of no less than 10 times per second including whether a phase is next or has a call for service on it.
- v. Shall consist of an SBVD system at all project intersections, as shown in the Plans.
- vi. Video detection shall consist of an IP based camera assembly and a digital video detection system. Analog cameras with separate video encoders shall not be allowed.

- vii. Radar detection shall consist of a radar sensor and IP cabinet interface device.
- viii. Every vehicular approach at every project intersection shall be included in the vehicle detection system, as shown in the Plans.
- ix. Shall be supplied with the ability to automatically collect and process data based on the classification of vehicles.
- x. Shall provide 24/7 turning movement count reports at no additional costs to MaineDOT for the life of the product.
- xi. Shall be connected to the in-cabinet high speed communications bus (SIU) within the controller cabinet.
- xii. Shall transmit detector data to the controller unit via the in-cabinet high speed communications bus (SIU) within the controller cabinet.
- xiii. Shall be installed in the ATCC such that SBVD is electrically powered via one of the switchable duplex outlets provided on the FMU. This configuration shall allow MaineDOT to power cycle and reset the SBVD, via remote FMU control (outlet power), in the event that the detection unit locks up.

643.031 Construction Requirements. The Contractor shall be responsible for furnishing all training, labor, materials, cables, connectors, tools, equipment, shipping and incidental items necessary to complete the installation and make the SBVD system fully operational.

Installation of the SBVD system shall include the installation of any and all associated equipment including, but not limited to, the following:

- a) Detector Assembly with Integrated Machine Vision Processor. The Contractor shall furnish one assembly per applicable approach and/or a signal device for all approaches, the minimum needed to provide adequate detection for all vehicle approaches.
- b) Detector Communications Interface Panel. The Contractor shall furnish one detector communications interface panel per cabinet.
- c) Detector Cable. The Contractor shall furnish the specified cable type, all connectors, sealing tape and incidental work necessary to complete the installation of the connector cable between the detector assembly and the interface panel.
- d) Mounting Brackets and Ancillary Equipment and Labor. The Contractor shall furnish detector mounting brackets and all associated equipment labor, materials, and incidental work necessary to attach the detector assemblies to a mast arm or extension bracket, complete the installation and make the SBVD system fully operational.

The Contractor shall install the SBVD system software on any number of computers/systems as required by MaineDOT to allow visual confirmation of the detection zones as shown on the plans. All equipment shall be installed and wired in a neat and orderly manner in conformance with the manufacturer's instructions. The detector assembly(s) shall be affixed to the support structure in accordance with the manufacturer's instructions to provide the optimal field of detection.

643.032 Locational Requirements The non-invasive stop bar vehicle detection zones shown on the plans confirm approach only. Final detection zones shall be located in the field and approved by MaineDOT and/or Engineer. The contractor may be required to adjust and readjust the location of existing and proposed vehicle detection zones in the presence of the Engineer, at no additional cost, to properly set the detection areas.

643.14 Field Testing The installation will be considered complete when the Contractor shows that the system has successfully and consistently placed a call to the Advanced Transportation Controller (ATC) and extend the appropriate phase based on a vehicle detected in the detection zone. In addition, the completed installation shall provide remote access to the system via MaineDOT control and/or the cloud-based CMS.

643.18 Method of Measurement The SBVD system will be measured for payment as one lump sum system fully installed and operational for all approaches of the intersection. All items, equipment, labor and incidentals required to create a fully functional system will be considered incidental to the cost of this item. Units shall be pre-approved or unconditionally warranted for at least 3 years from factory purchase and certified to comply with the product's published specification by an independent laboratory.

643.19 Basis of Payment. Payment will be full compensation for furnishing, transporting, handling, installing and testing the materials and equipment specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

<u>Pay Item</u>	<u>Pay Unit</u>
643.21 Non-Invasive Detection – Stop Bar: U.S. Route 1, Cross Road, and Cochran Road	Lump Sum

SPECIAL PROVISION  
SECTION 643  
TRAFFIC SIGNALS

The provisions of Section 643 of the Standard Specifications shall apply with the following additions and modifications:

643.01 Description

Locations of devices will be shown on the plans. Plans are diagrammatic only. All equipment locations shall be field verified by the resident before installation. This work shall include the removal of the existing flashing beacon system including all lights, the cabinet and any other associated appurtenances. The work shall also include the removal and disposal of the existing changeable message sign (CMS) and all related equipment necessary including the wood pole with solar powered video detector. The work shall also include the mounting of a proposed luminaire and associated equipment to WP2, as shown on the plans. The contractor is responsible for assessing the feasibility of reusing the existing poles for the new signal system. The contractor shall submit structural calculations for the wood poles for review.

The flashing beacon system is located at the intersection of U.S. Route 1, Cross Rd and Cochran Rd. The CMS is located on the southbound side of U.S. Route 1, north of the intersection of U.S. Route 1, Cross Rd and Cochran Rd.

643.021 Materials

Materials shall meet the requirements in the following Special Provision to Section of Division 700 - Materials:

Traffic Control System	718.13
Field Monitoring Unit	718.14
Emergency Vehicle Preemption System	718.15

643.025 Equipment

All traffic signal controller timing parameters shall be programmed to provide free operations.

643.03 General

On the day of disconnection, the Contractor shall remove all existing changeable message sign boards and related equipment. The contractor shall be responsible for disposing of all message signs in accordance with Maine Department of Environmental Protection solid waste regulations.

643.19 Basis of Payment Traffic signals and traffic signal modifications shall be paid for at the contract lump sum price. Payment will be full compensation for furnishing and installing all materials, including, but not limited to battery backup, ATC controllers, FMU, vehicular signal



heads, retroreflective backplates, signal cable, light-emitting diode (LED) lamps, emergency vehicle preemption, integration of the Central Management System into CV/SPM system, wood poles, guys, tether wire, span wire, visors, wiring, cable, pole risers, luminaires and all appurtenances and incidentals required for complete functioning installations with secure VPN remote access. This includes all tools and labor necessary for completing the installations as applicable by intersection. Payment for removal and disposal of flashing beacon, support poles, and lane use signs shall be considered incidental to the traffic signal control system. Payment for removal and disposal of changeable message signs and all related equipment shall be considered incidental to the traffic signal control system. Payment for coordination, signal system start-up, adjustments, system loadings and acceptance testing shall be considered incidental to the traffic signal control system.

Pay Item

Pay Unit

643.80	Traffic Signal at: U.S. Route 1, Cross Road, and Cochran Road	Lump Sum
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**SPECIAL PROVISION**  
**SECTION 645**  
**HIGHWAY SIGNING**  
(Red Signal Ahead Advanced Warning System)

The provision of Section 645 of the Standard Specifications shall apply with the following additions and modifications:

645.01 Description A “RED SIGNAL AHEAD” Advanced Warning System shall be installed as indicated on the plans. This work shall consist of furnishing, installing, integrating, and testing a dynamic flashing signal with warning sign. The purpose of this system is to alert drivers of changing signal indications in advance of the signal to allow users at the southbound approach to the intersection with Cross Rd and Cochran Rd, additional time to reduce speeds where the “RED” blank out portion shall flash during the yellow signal indication and remain solid during the red signal indication for the approach.

The Contractor is responsible for providing a fully functioning advanced warning system integrated with the proposed signal system.

The location of equipment, connections, and other incidental work will be shown on the plans. Plans are diagrammatic. All equipment locations shall be field verified by the Resident before installation.

645.02 General All material furnished by the Contractor shall be new unless otherwise specified.

Primary communications are provided by the signal system. Primary power shall be provided by the nearby utility pole via a power drop. Backup battery power is required. Backup communications shall be provided via wireless radio contact closure system. The signal system shall be responsible for indicating if connection is lost with the device through the Central Management System (CMS).

All electrical equipment shall conform to National Electrical Manufacturers Association (NEMA), UL or EIA standards, wherever applicable. In addition, all materials and workmanship shall conform to the requirements of the NEX, the local electrical Utility Company, and all local ordinances, which may apply.

645.021 Materials Materials shall meet the requirements specified in the following Section of Division 700 – Materials:

Service Equipment	715.11
Reflective Sheeting	719.01
Demountable High Intensity Prismatic Reflectorized Letters, Numerals, Symbols and Borders	719.02
Breakaway Devices	721.01

645.03 Flashing Sign General Requirements Sign shall be actuated in sequence from control logic provided at the traffic signal controller. The “RED” LED blankout letters shall flash during yellow signal actuation and turn solid during red signal actuation. Absence of actuation shall cause the LEDs to remain unlit so the remaining permanent static sign will state “SIGNAL AHEAD.”

LED blank-out sign shall have an aluminum housing with a black-powder coat finish. The housing shall be weatherproof conforming to NEMA 3R. Message shall read “Red Signal Ahead” as shown on the plans. “Red” shall be made up of discrete LEDs with a maximum pitch of 20 mm to over the stroke width of the letters that simulate the static sign legend in accordance with the MUTCD. The LEDs shall be visible up to 2 miles away. LED colors shall conform substantially to the color of the legend and symbols in accordance with MUTCD. Each LED shall be dimmable to adjust its brightness in accordance with ambient light conditions. LED blank-out sign shall be designed for pole mounting with breakaway assembly.

The backup wireless closure system shall be wired to the signal system but will not be turned on unless required. This shall turn on automatically upon failure of the primary communication method. The wireless contact closure system shall have a 900mHZ frequency hopping spread spectrum (FHSS) radio with bi-directional long-range communications of up to 20 miles (line-of-sight), with the ability to confirm remote switch closure.

The contact closure system must be able to run on a schedule or on demand with automatic daylight savings and leap year adjustment. It must have space for at least 8 digital inputs and outputs.

645.04 Testing The system shall meet all warranty and testing requirements outlined in Section 718: Intelligent Transportation Systems. In addition, the flashing sign and associated equipment installed under this project will not be considered complete until the Contractors shows that the sign is properly integrated into the signal system. At a minimum, it must be observed to operate acceptably during all phases, when the signal is in operating in and out of coordination, when advanced detection is activated, and during signal flash operations with and without the wireless contact closure.

The item shall be unconditionally warrantied as outlined in Section 718: Intelligent Transportation Systems for a term that begins upon MaineDOT acceptance. At a minimum the system will be comply with the product’s published specification as certified by an independent laboratory.

645.08 Method of Measurement The Red Signal Ahead Advanced Warning System will be measured for payment per each. All material, equipment, labor, incidentals and testing required for installation and operation to create a fully functional system including the sign with LED blankout mounted on a signal post with breakaway support (incidental), wireless contact closure and the necessary power drop will be considered incidental to the cost of this item.

645.09 Basis of Payment Payment by each will be made for furnishing, transporting, handling, integrating, installing and testing the materials and equipment specified and includes furnishing labor, tools, equipment, and incidentals necessary to complete the work. Primary power shall be provided by the nearby utility pole, backup power shall be provided via battery and backup

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communications shall be provided via wireless radio contact closure system which shall be incidental to the advanced warning system.

	<u>Pay Item</u>	<u>Pay Unit</u>
645.517	Red Signal Ahead Advanced Warning System	Each

**SPECIAL PROVISION**  
**SECTION 652**  
**MAINTENANCE OF TRAFFIC**  
**Portable/Temporary Traffic Signals**  
**Automated Flagging Assistance Devices (AFADs)**

652.01 Description Portable/Temporary Traffic Signals or Remotely Controlled Automated Flagging Assistant Devices (AFADs) may be used in conformance with this Special Provision at the option of the Contractor in lieu of Flaggers and as approved by the Department.

Portable/Temporary Traffic Signals shall conform to Part 4H.02 of the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD) and shall be the Dolly Type (SQ2) or the Trailer Mounted Type (SQ3). AFADs shall conform to Part 6E.04 of the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).

Portable/Temporary Traffic Signals and AFADs must satisfy applicable crashworthiness standards based on device weight which shall be in accordance with National Cooperative Highway Research Program (NCHRP) Report 350 and the American Association of State Highway and Transportation Officials (AASHTO) Manual for Assessing Safety Hardware. The use of Portable/Temporary Traffic Signals may be suspended at any time at the discretion of the Resident.

652.02 Portable/Temporary Traffic Signals Operation

The Contractor shall submit a Traffic Control Plan to the Resident for approval which shall detail Portable/Temporary Traffic Signals operation.

Portable/Temporary Traffic Signals may be used during daytime or nighttime operations; however, Dolly Types (SQ2) shall not be in operation when the work site is unattended.

Work zones utilizing Portable/Temporary Traffic Signals shall add A Signal Ahead symbol (W3-3) sign that will replace the Flagger symbol sign. An 18-inch-wide removable stop line with a STOP HERE ON RED (R10-6) sign shall be installed at the intended stopping point.

The Resident may waive the requirement for a stop line if the roadway is unpaved or it is otherwise impractical to install a stop line and the STOP HERE ON RED sign is in place.

The distance between Portable/Temporary Traffic Signals units shall not exceed the phase timing and distances as designed by a Professional Engineer, registered in the state of Maine, or as designated on the Charts provided in this specification.

When the work no longer necessitates use of the Portable/Temporary Traffic Signals, the units shall be removed or turned off and moved out of view from the traveled way.

### 652.03 Automated Flagging Assistance Devices (AFADs)

AFADs shall be used only for short-term or intermediate-term lane closures in situations where there is one lane of approaching traffic that needs to be controlled. AFAD use is acceptable in either of the following cases: The first case employs an AFAD unit at each end of the work zone while the second case employs an AFAD unit at one end and a flagger at the other end. Utilizing an AFAD, a single flagger may remotely control two or more AFAD units provided that the flagger has a clear view of each unit, and of approaching traffic in both directions. Other cases may be used as approved by the Resident.

AFAD use is permitted during daytime or nighttime operations; but, if used at night, the AFADs must be illuminated in accordance with Section 6E.08 of the latest edition of the MUTCD.

AFADs are not traffic control signals, they should not be used to replace traffic signals or other continuously operating traffic control devices.

A competent, certified flagger, who has been trained on the operation of the AFADs shall operate and not leave the AFADs unattended at any time. The flagger shall have an unobstructed view of the AFADs and approaching traffic in both directions at all times. The distance between AFAD units shall not exceed one-half mile.

Work zones utilizing AFADs shall comply with the Standard Sheet for flagger operation on a 2-lane 2-way roadway, where an AFAD unit, or units, is used in lieu of a flagger a BE PREPARED TO STOP sign (W3-4) is to be used in lieu of the Flagger symbol sign. Red/Yellow lens AFADs shall have a STOP HERE ON RED (R10-6) sign installed on the right-hand shoulder at least 8 feet in advance of the RCRYLS unit where vehicles are expected to stop and Stop/Slow AFADs shall have WAIT ON STOP (R1-7) and GO ON SLOW (R1-8) signs immediately adjacent to the AFAD.

The Contractor's Traffic Control Plan shall detail AFAD operation including a list of competent, certified flaggers trained to operate the AFADs. When the work no longer necessitates use of the AFADs, units shall be moved out of view from the traveled way.

### 652.04 General Operation

Portable/Temporary Traffic Signal and AFAD units shall be placed in the shoulder on the right-hand side of the road with a sight distance as designated in the Minimum Sight Distance for Signal Visibility chart provided in this specification.

If the shoulder is not adequate, the Portable/Temporary Traffic Signals or AFADs may encroach on the travel lane provided that the appropriate sight distance is available and as approved by the Resident. Re-positioning of the Portable/Temporary Traffic Signals or AFADs shall need the approval of the Resident.

Appropriate flagger apparel and equipment shall be maintained near each Portable/Temporary Traffic Signal or AFAD unit to facilitate flagging in the event of a malfunction or operational need due to frequent disruptions of traffic flow. The Contractor shall immediately provide traffic control with flaggers if a Portable/Temporary Traffic Signal or AFAD unit malfunctions; fails to properly or adequately control traffic; creates congestion, queues or gridlock which cannot be remedied by timely on-site adjustments to the signal operation; or is otherwise inadequate; all of which shall be determined by the Resident.

When Flaggers are being utilized, Portable/Temporary Traffic Signals shall not be in operation.

Portable/Temporary Traffic Signals or AFADs shall not be located within 200 feet of a grade crossing unless the temporary traffic control signal is provided with preemption in accordance with MUTCD Section 4D.27, or unless a uniformed officer or flagger is provided at the crossing to prevent vehicles from stopping within the crossing.

652.05 Method of Measurement Portable/Temporary Traffic Signals or AFADs shall be measured by the hour for each approach that are in place and operating.

652.06 Basis of Payment Portable/Temporary Traffic Signals shall be paid at the Flagger Hourly Rate for each approach in operation.

AFADs shall be paid at the Flagger Hourly Rate for each unit in operation and for the operator.

(1<sup>st</sup> Example: One set of AFADs (one unit), plus operator, would be paid as 2 X Flagger hourly rate X hours in use.)

(2<sup>nd</sup> Example: One set of AFADs (two units), plus operator, would be paid as 3 X Flagger hourly rate X hours in use.)

Payment will be made under:

<u>Item Number</u>	<u>Description</u>	<u>Unit</u>
652.38	Flagger	Hour



Minimum Sight Distance for Signal Visibility

<u>Posted Speed Limit (mph)</u>	<u>Minimum Sight Distance (ft)</u>
25	270
30	325
35	390
40	460
45	540
50	625
55	715



Example of Dolly type or SQ2



Example of Trailer Mounted type or SQ3



Example of an AFAD

All red Clearance Intervals  
 Less Than 40 mph  
 Assumed Travel Speed 15 mph

Posted Speed Limit	Distance Between Stop Bars		Minimum All red Clearance Time
	Yards	Feet	Seconds
25, 30 & 35	33	100	4.6
	50	150	6.9
	67	200	9.1
	83	250	11.4
	100	300	13.7
	117	350	16.0
	133	400	18.2
	150	450	20.5
	167	500	22.8
	183	550	25.0
	200	600	27.3
	217	650	29.6
	233	700	31.9
	250	750	34.1
	267	800	36.4
	283	850	38.7
	300	900	41.0
	333	1000	45.5
	350	1050	47.8
	367	1100	50.0
	383	1150	52.3
	400	1200	54.6
	417	1250	56.9
	433	1300	59.1
	450	1350	61.4
	467	1400	63.7
	483	1450	66.0
	500	1500	68.2
	517	1550	70.5

All red Clearance Intervals  
40 mph and Above  
Assumed Travel Speed 25 mph

Posted Speed Limit	Distance Between Stop Bars		Minimum All red Clearance Time
	Yards	Feet	Seconds
40,45,50 & 55	33	100	3.5
	50	150	5.2
	67	200	6.9
	83	250	8.6
	100	300	10.3
	117	350	12.0
	133	400	13.7
	150	450	15.4
	167	500	17.1
	183	550	18.8
	200	600	20.5
	217	650	22.2
	233	700	23.9
	250	750	25.6
	267	800	27.3
	283	850	29.0
	300	900	30.7
	317	950	32.4
	333	1000	34.1
	350	1050	35.8
	367	1100	37.5
	383	1150	39.2
	400	1200	40.9
	417	1250	42.7
	433	1300	44.4
	450	1350	46.1
	467	1400	47.8
	483	1450	49.5
	500	1500	51.2
	517	1550	52.9

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 and milling 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.

SPECIAL PROVISION  
SECTION 654  
INTELLIGENT TRANSPORTATION SYSTEMS  
(Connected Roadside Unit)

654.01 Description This item shall consist of furnishing and installing connected vehicle (CV) roadside units (RSU) including all necessary fittings and mounting hardware at the locations shown on the Plans or as indicated by MaineDOT. The purpose of these units is to communicate via C-V2X cellular communications to compatible vehicles, onboard units and phone applications about intersection and applicable road conditions as described in the text that follows.

The locations will be shown on the plans. Plans are diagrammatic. All equipment locations shall be field verified by the Resident before installation.

654.02 General All material furnished by the Contractor shall be new unless otherwise specified. If any of the hardware or software-specific requirements listed in the following sections cannot be met by a willing Bidder, but the Contractor believes that strict conformance to the given requirement is unnecessary or may be accomplished differently, the Contractor shall provide a list of the requirements that cannot be strictly met along with a justification for how the Contractor's proposed connected roadside unit may be considered functionally equivalent in accordance with Special Provision 103.

All electrical equipment shall conform to National Electrical Manufacturers Association (NEMA), UL, or EIA standards, wherever applicable. In addition, all materials and workmanship shall conform to the requirements of the NEX, the local electrical Utility Company, and all local ordinances, which may apply.

654.03 Connected Roadside Unit General Requirements The RSU system shall include equipment meeting the following General, CV Device Interoperability, Wireless Communication, RSU Configuration and Management, Device Interfaces, Systems Communications, Ports and Connectors, Mechanical, Electrical, Environment, Operating System, and Federal Communications Commission (FCC) requirements:

- a) General CV equipment includes all hardware and materials, software, and any necessary ancillary equipment for a complete assembly necessary to enable wireless vehicle-to-infrastructure (V2I) and vehicle-to-vehicle (V2V) communication. The CV equipment shall also fully support C-V2X operations. Only new equipment and materials, except as specified in the contract shall be allowed. The CV equipment shall integrate into the ATC traffic signal controller and provide connected vehicle applications to mobile devices through a hybrid system using cellular vehicle-to-everything.

CV equipment must be compatible with the proposed traffic controller. The CV equipment must create a system that provides the minimum required functions and applications as shown on the Plans.

The Contractor shall ensure that the CV equipment is permanently and legibly marked with a serial number, date of manufacture, and part number.



Connected vehicle equipment and systems must support the project goals and applications described in the contract.

CV equipment must be compatible with a Security Credential Management System for V2V, V2I and C-V2X communication and meet the applicable industry standards listed in *Table 1 – CV Roadside Unit (RSU) Requirements and Standards*.

CV equipment must be capable of remote firmware updates. Device manufacturers must make firmware updates available to the Department and maintaining agency at no cost.

**Table 1: CV Roadside Unit (RSU) Requirements and Standards**

Document Identifier	Description
SAE J2945, released 2017.12.07	On-Board System Requirements for V2V Safety Communications
C-V2X 3GPP Rel.14	LTE support for V2x services, eLAA, 4 band Carrier Aggregation, inter-band Carrier Aggregation
IEEE 802.11p	IEEE Standard for Information Technology–Telecommunications and information exchange between systems local and metropolitan area networks – Specific Requirements Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications
IEEE 1609.0	IEEE Guide for Wireless Access in Vehicular Environments (WAVE) – Architecture
IEEE 1609.2	IEEE Standard for WAVE – Security Services for Applications and Management Messages
IEEE 1609.3	IEEE Standard for WAVE – Networking Services
IEEE 1609.4	IEEE Standard for WAVE – Multi-Channel Operation
IEEE 1609.12	IEEE Standard for WAVE – Identifier Allocations
IEEE 802.3at	Standard for Power over Ethernet
ASTM E2213–03	Standard Specification for Telecommunications and Information Exchange Between Roadside and Vehicle Systems — 5-GHz Medium Access Control (MAC), and Physical Layer (PHY) Specifications
FCC Title 47, Parts 0, 1, 2, 15, 90, and 95	FCC Code of Federal Regulations

- b) CV Device Interoperability Provide standards-based CV devices that are interoperable

with CV devices from other manufacturers. Ensure that RSUs and Onboard Units (OBUs) are compatible and interoperable. All proposed CV equipment, consisting of a complete engineered solution meeting the contract requirements must be provided to the Department, at no additional cost, within 45 days of contract execution for testing.

- c) Wireless Communications Ensure wireless communications are secure and compatible with the carrier used by the agency responsible for system operation and maintenance.
- d) Roadside Unit (RSU) The RSU must be a commercially available product that provides information and supports public safety operations in a V2I/V2V and C-V2X communication environment. RSUs must be successfully demonstrated to the Department and shown to support the functional features and CV applications identified in the contract.

The RSU must be preconfigured by the manufacturer or an authorized manufacturer's representative so that it is ready for installation and operation at the site(s) shown on the Plans. The Department will provide on-site data, such as MAP data. Upon receipt of the RSU(s), the Department will validate the configuration of the unit. The contractor will provide all required support, throughout the configuration process until approved by the Department. The RSU must include antennas for all radio frequency connectors, surge protection device(s) (SPDs), mounting hardware, all associated cabling, and any other equipment required for a fully functional and complete installation.

The RSU must automatically recover from a power failure once power is restored. The Contractor shall verify and document that all programmable settings are restored to their previous configurations and that the system resumes proper operation. Documentation shall be submitted to MaineDOT and the Engineer.

- e) Configuration and Management RSU must be provided with all hardware, software, configuration tools and software licenses required for local and remote configuration, operation, and management including access to all user- programmable features as well as health and status monitoring, event logging, and diagnostic utilities. Configuration and management functions must be password protected. Access to all user-programmable features, alarm monitoring, configuration parameters, event logging and diagnostic utilities must be through a vendor provided Graphical User Interface (GUI). The RSU must be provided with an open application programming interface (API) and software development kit available to the Department at no additional cost. This vendor provided GUI must be able to create Transportation Information Messages and send them to the RSU.

Alarm monitoring must include communication failure, power failure, GPS deviations, and time source lost. The RSU must include an event log that includes the date and time of the event(s). The RSU must be capable of storing a minimum of 500 events as defined by USDOT RSU specification.

All major components of the RSU shall be of a modular design to facilitate future CV frequency changes as set forth by the FCC.

- f) Device Interfaces The RSU must include wired (Ethernet) and wireless interfaces

specified in the USDOT RSU specification. The RSU must provide cellular interfaces for system communication, as shown on the Plans. The Contractor shall verify and document that all interfaces are protected by a configurable firewall with a default to be inactive.

- a. C-V2X The RSU must include a commercial-grade radio that transmits and receives messages over C-V2X within the 5.855 – 5.925 GHz band.
- b. Antennas The RSU must use antennas that were tested with the device to obtain the FCC Grant of Equipment Authorization (or similar antennas with equal gain). Antennas must be removable to allow for the antennas to be installed at a distance from the RSU unit or replaced as needed. The Contractor shall not co-locate or operate RSU antennas with any other antenna or transmitter, except in accordance with the FCC multi-transmitter policy.
  - i. C-V2X Radio Characteristics:
    - 1. Protocol: 3GPP C-V2X Rel.14
    - 2. Freq. band: 5.855 – 5.925 GHz (LTE B47)
    - 3. 10 MHz channel spacing, PC5 side link
    - 4. Output power: 20 dBm (power class 3)
    - 5. Sensitivity: typ. -95 dB
- g) Systems Communications All Contractor supplied equipment, including connected vehicle equipment and roadside devices (ATC, FMU, Detection systems and Ethernet Switch), shall be compatible and interoperable. In addition, all IP based network equipment supplied by the Contractor shall be fully compatible with all existing MaineDOT and local agency data networks.
- h) Ports and Connectors The RSU must include all necessary ports and connectors for a complete assembly. All ports and connectors must be weatherproof and inhibit the ingress of water, dirt, sand and other foreign materials from entering the enclosure. All ports must be legibly and permanently marked designating their intended use. All labels must be weather resistant.
  - a. Copper Ports. The RSU must include a minimum of one Type RJ-45 Ethernet port. The Type RJ-45 port must be capable of auto-negotiating speed (i.e., 10/100 Base) and duplex (i.e. full or half). All 10/100 Base TX connections must be compliant with the IEEE 802.3 standard pinouts.
  - b. Radio Frequency (RF) Connectors. The RSU must include at least three Type N weatherproof female RF ports.
  - c. Power over Ethernet (POE). The RSU must include at least one POE connector. The POE connector must be compliant with the Outdoor IP 66 rating.
- i) Mechanical Specification Ensure equipment is permanently marked with manufacturer name or trademark, part number, date of manufacture and serial number. All parts must be made of corrosion-resistant materials.

- j) Electrical Specification Ensure that all wiring complies with the latest edition of the National Electrical Code (NEC), National Electrical Safety Code (NESC), any local jurisdiction requirements, and IEEE 802.3.

Ensure that the RSU operates at a nominal voltage between 37 and 57 Voltage Direct Current (VDC)

Ensure that the POE injector used to power the RSU operates using a nominal input voltage of 120 Voltage Alternating Current (VAC). If any system device requires operating voltages other than 120 VAC, supply a voltage converter.

- k) Environmental Specification Ensure that the RSU complies with all environmental requirements of the latest edition of the Dedicated Short-Range Communications Roadside Unit Specifications published by the USDOT. Must be compliant with section 2 of the NEMA TS2 standard.

- l) Operating System The RSU's processor must run the latest version of the Linux operating system, at the time of bid, and all applications must be written as Linux based applications. Additionally, the RSU must meet the minimum requirements for processing, memory, and storage as required in the USDOT RSU specification.

- m) Applications The RSU shall include software and business logic to support the following applications:

- a. Signal Phase and Timing (SPaT)
- b. Traveler Information Messages (TIM)
- c. Work Zone Alert
- d. Emergency Vehicle Preemption (EVP)
- e. Snowplow Signal Priority
- f. Freight Signal Priority
- g. Pedestrian Warning (PedSafe)
- h. Queue Warning
- i. Curve Speed Warning
- j. Data Pass Through

- n) FCC License Compile all information required to register RSU devices and locations with the FCC and provide this information to the Department for review in accordance with Section 7-2. Support the permitting effort until complete. The Contractor shall procure all FCC licenses on MaineDOT behalf. All fees associated with procuring the FCC licenses shall be included as part of the bid price.

- o) Connected Vehicle Management Software The Contractor shall provide, configure and install a Connected Vehicle Management Software (CVMS) system on the cloud-based

server that contains the CMS systems. The CVMS shall provide for local and remote configuration of the RSU, diagnostics, alarms, retrieval and storage of data. The CVMS shall function locally as well as remotely over an Ethernet network using the FMU or existing City owned network connections. All fees associated with procuring the CVMS licenses shall be included as part of the bid price.

- p) Storage, Logs and Routing The RSU must store and transmit periodic status messages, capture System Status Logs and Communication Message Logs as well as route and forward IPv6 traffic for connected mobile units.

654.04 Construction Requirements The Contractor shall be responsible for furnishing all training, labor, materials, cables, connectors, tools, equipment, shipping and incidental items necessary to complete the installation and make the RSU system fully operational.

Installation of the RSU system shall include the installation of any and all associated equipment including, but not limited to, the following:

- a) RSU Installation Install RSUs on existing poles or sign structures, or on new poles, as shown on the Plans. The RSU, mounting hardware, and any other related material that is exposed to the environment must be designed for 150 mph wind speeds and meet the requirements of the Department's Structures Manual. Submit electronic configuration file backups to the Department following field testing. Backup files must include communication settings, firmware, and all other files and settings required to restore current operation and program a new replacement RSU.

The Contractor may mount the RSU in an alternate location than shown on the plans provided the antennae have a clear line of sight for all approaches. This (alternate location) provision is to better assist the Contractor to stay within the typical 100 meter limitation of CAT5 cable runs without having to purchase repeaters to match the proposed plan locations.

- b) Cabling Ensure that all device cabling is free from defects. Provide sufficient cabling slack within existing cabinets and pull boxes to facilitate future re- terminations and any required adjustments needed to shift the RSU along the mounting structure. Neatly bundle and coil all slack within storage areas and prior to entering the RSU. Provide weatherproof cable tags at all storage points and at cable termination ends. All unshielded and shielded twisted pair Ethernet gel filled cabling shall be compliant with the EIA/TIA-568-B-2-1, CSA and ISO/IEC 11801 standards. Neatly coil and band all cable slack together using heavy duty cable locking ties. The use of standard zip-ties will not be permitted.

- c) Testing and Warranty The system shall meet all warranty and testing requirements outlined in Section 718: Intelligent Transportation Systems.

The item shall be unconditionally warrantied as outlined in Section 718: Intelligent Transportation Systems for a term that begins upon MaineDOT acceptance. At a minimum the system will be comply with the product's published specification as certified by an independent laboratory.

654.05 Method of Measurement. The RSU for CV applications will be measured by each unit furnished and installed. All equipment, labor, training, testing and incidentals required to create a fully functional system will be included in the bid price of this item.

654.06 Basis of Payment. Payment will be full compensation for furnishing, transporting, handling, and installing the materials and equipment specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under the following:

<u>Pay Item</u>	<u>Pay Unit</u>
654.351      Connected Roadside Unit (RSU)	Each



SPECIAL PROVISION  
SECTION 659  
MOBILIZATION

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.  $\text{Mob}/(\text{Total Contract} - \text{Mob})$ .

Payment will be made at the following intervals:

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

**SPECIAL PROVISION**  
**SECTION 718**  
**INTELLIGENT TRANSPORTATION SYSTEM**  
**(TESTING AND WARRANTY REQUIREMENTS)**

The provisions of Section 718 of the Standard Specifications shall apply with the following additions and modifications related to the testing of Intelligent Transportation Systems.

718.01 Testing Plans The Contractor shall prepare a basic testing plan for Department review and approve. The Contractor shall provide all equipment, materials, and labor required to perform each test, including laptop computer, internet connections, software, and Maintenance of Traffic.

The Contractor shall coordinate with the Department's Transportation Management Center (TMC) at least 7 days prior to scheduling any equipment or systems testing.

The Department reserves the right to examine and test or retest all materials furnished by the Contractor to determine if they meet the requirements specified within the Contract Documents.

If the Department decides that any material used in the construction of this project is defective or otherwise unsuitable, and the workmanship does not conform to the requirement of this contract, the Contractor shall replace such defective parts and material at no cost to the Department.

The Contractor shall conduct all tests in the presence of the Resident. Testing shall be scheduled only on weekdays, and subject to approval of the Department.

718.011 System and Device Testing All ITS systems and equipment installed under this project shall be tested prior to final acceptance in three stages.

718.0111 Stand-Alone Testing This test shall be performed on-site at the ITS device or system. The purpose of the Stand-Alone tests is to exercise all stand-alone (non-network) functional operations of the equipment or device as installed and demonstrate compliance with the requirements for the equipment defined in the specifications. If the system components or ancillary equipment fails to pass the stand-alone test, the Contractor shall correct the problem or replace the component and retest until satisfactory results are achieved.

718.0112 Subsystem Testing This test shall be performed for ITS devices and systems that are connected to a communication network other than a cellular modem. The purpose of the subsystem test is to exercise the ITS device or system over a local area network. If a device or system fails to pass the Subsystem Test, the Contractor shall correct the problem or replace the part/device/equipment/system and retest until satisfactory results are achieved. This test can be combined with Stand-Alone Testing.

718.0113 Central Control Testing This test shall be performed at the TMC in Augusta on the system software. The purpose of the Central Control Test is to exercise all functionality and control of the ITS device or system at a TMC workstation through applicable software. If a device or system fails to pass the Central Control Test, the Contractor shall correct the problem

or replace the part/device/equipment/system and retest until satisfactory results are achieved. The Central Control Testing shall be completed after Standalone Testing. Upon successful completion of the Central Control Test, the Contractor shall request in writing the initiation of the Operational Acceptance Test Period.

718.0114 Operational Acceptable Test Period An operational acceptance test period will be required for all installed ITS components. The test period shall begin upon completion of field tests, communication tests, and Central Control tests, and will last for a minimum of 30 consecutive days unless a specific ITS system or device requires a longer test period. The test period will demonstrate that all ITS devices, systems, and components are properly installed, are free from problems, exhibit stable and reliable performance, communicate reliably with the Department TMC through the applicable software, and comply with the Contract Documents.

The Contractor shall coordinate with the Department TMC to schedule any exercises and have a representative at the device to provide on-site verification of device functionality, if necessary.

In the event of a failure, the test period shall be suspended until the Contractor resolves the failure (by repairing or replacing the failed part, equipment, or system). Upon successful repair or replacement, the test shall continue to the end of the 30 days, or for a minimum of 10 days, whichever is longer. Upon any subsequent failure, or if the first failure is determined to be significant by the TMC, the Operational Acceptance Test Period shall be restarted for the full 30 days following replacement.

718.0115 General Testing Requirements All tests shall be conducted sequentially per system or device. Completed test results shall be packaged and sent to the Department within 14 calendar days of test completion. No test phase shall begin until all prior test phases have been completed and the Department has approved the test results.

The Contractor shall provide any test-specific software needed for this test. Subsystem testing will not be required.

As part of the final testing, the Contractor shall provide the Department with a complete set of maintenance and user manuals along with all the wiring and assembly schematics/diagrams, including any material safety data sheets (MSDS), prepared by the manufacturer and any toxic substances (coatings, liquids, or other) used. Maintenance information shall include troubleshooting directions, maintenance schedule recommendations, and calibration recommendations/directions. All necessary equipment to complete calibrations shall be included.

718.02 Guarantees and Warranties The Contractor shall unconditionally warranty all system and subsystem modules including all cabinets, equipment, hardware, and software installed to be free of defects. The warranty shall cover all parts, labor, transportation, shipping, tolls, equipment, mobilization, maintenance of traffic, and incidentals necessary to repair or replace any system component, device, equipment, or sensor that fails to perform as required by the Contract Documents.

718.021 Manufacturer Warranties The Contractor shall secure all guarantees that are customarily issued by the equipment manufacturers for the equipment included in the Contract. The guarantees shall include the provision that they are subject to transfer to the Department and shall be accompanied by proper validation of such fact. Transfer of guarantees shall coincide with the Guarantee Period specified below.

The terms of any equipment warranties stipulated by the equipment manufacturers shall be provided with product data included in the Technical Submittal. The terms of any equipment manufacturer's warranties will not relieve the Contractor from any of the guarantee requirements of this contract.

When a guarantee is available on repaired or replaced components, a written and signed guarantee shall accompany the manufacturer's billing invoice. The TMC representative or inspecting agent will sign and retain the original and provide a copy to the maintaining agency and a copy to the manufacturer.

718.022 Warranty Period The length of warranty will be three (3) years from the date of equipment turnover to the Department for each ITS device. The Contractor shall guarantee the availability of compatible replacement equipment for a five-year period from the same date.

The warranty shall include technical support available via telephone and email 24 hours per day, 7 days per week, 365 days per year for the warranty period. The Contractor shall provide on-site warranty service of the equipment within 48 hours of notification by the Department. If the Contractor is unable to affect a repair to the equipment within seven (7) calendar days of notification, temporary equipment meeting all the original equipment specifications may be requested by the Department and shall be provided and installed at no cost to the Department. The Contractor shall then either fix or replace the broken device or equipment at their discretion.

The Contractor shall be responsible for repair or replacement during the guarantee/warranty period. Repair is defined as all activities that shall be performed for the system to remain in, or return to, operation as observed at the time of installation (by others). Replacement is defined as providing the same or better model of the equipment or device under warranty. The work consists of the repair of defective devices that fail during the normal course of operation and does not include repairs or replacements made necessary due to damage resulting from vandalism, traffic accidents, or acts of God.

If the same component requires repair more than twice during the warranty period the Contractor shall replace the component rather than provide a third repair at no additional cost to the Department.

718.03 Maintenance Log The Contractor shall maintain a log of all guarantee work performed during the Guarantee Period. The log shall include, at a minimum, the following information:

- a. Date and time of defect reported;
- b. Entity reporting the defect;

- c. Description of the reported defect;
- d. Technician responding to reported defect;
- e. Arrival time at the site of the technician;
- f. Technician performing defect repair or replacement;
- g. Description of the observed defect;
- h. Corrective actions taken;
- i. Model and serial number of any module repaired or replaced; and
- j. Date and time defect rectified.

The Contractor shall maintain records showing the itemized material and equipment cost incurred to provide response maintenance during the guarantee period. These records shall be provided to the TMC within 15 working days of the warranty work. These records will not be used as a Basis of Payment to the Contractor. The Contractor shall ensure that these cost records are complete and accurate. The Department may perform an audit to verify the accuracy of these records.

SPECIAL PROVISION  
SECTION 718  
TRAFFIC SIGNALS MATERIAL

The provisions of Section 718 of the Standard Specifications shall apply with the following additions and modifications:

718.13 Traffic Signal Control System The additional intersection of U.S. Route 1, Cross Rd and Cochran Rd traffic signal control system shall allow the system to meet the minimum performance standards outlined in this specification.

a) Central Management System. The Central Management System (CMS) shall satisfy the following basic requirements.

The CMS system shall be able to provide multiple signal group operation. Individual intersections within a group must be able to be reassigned to a different operational group by manual, time of day, or traffic responsive command.

No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to satisfy the requirements as defined in these specifications.

All communications between the expanded CMS and the local controllers shall comply with National Transportation Communications for Intelligent Transportation Systems (NTCIP) protocol consistent with other similar MaineDOT projects. Compatibility is required for all currently approved mandatory NTCIP standards and with the optional NTCIP consistent with the similar MaineDOT projects. To help assure this compatibility, the system manufacturer shall certify and list what level of NTCIP compliance is supported for all current mandatory and optional NTCIP objects and standards. In addition, the list shall describe all manufacturer-specific NTCIP objects and functions available. The system supplier shall also list the non-approved NTCIP objects and standards in the system and furnish a description of the company's involvement in and input to the various NTCIP standards committees, their degree of involvement, and present efforts including timetables for meeting proposed NTCIP standards under review. All communications between the local field controllers to the CMS shall be Ethernet based protocols, serial or FSK communications shall not be allowed.

The expanded system and all system controllers shall be able to provide signal priority routing to support Snowplow CV Operations through different signal groups.

The expanded CMS shall be installed on the MaineDOT furnished, and configured cloud-based system. The Contractor shall supply all additional software and hardware accessories to provide a complete and functional cloud-based CMS system.

The expanded cloud-based CMS shall be configured to provide remote access to the intersection of U.S. Route 1 with Cross Rd and Cochran Rd as well as system users as designated by MaineDOT and or the Engineer.



The expanded cloud-based CMS shall be configured to require a multi-factor authentication to gain access to the system. The Contractor shall coordinate and submit for approval all proposed network security setting with MaineDOT IT and the Engineer.

The Contractor shall coordinate with MaineDOT IT to create a site-to-site VPN connection between MaineDOT internal network and the Contractor expanded cloud system for the CMS, SPM and the Connected Vehicle (CV) system. This site to site connection shall be in conjunction with MaineDOT IT and follow all network security protocols, permissions and procedures.

All access to the expanded cloud-based CMS shall be configured to utilize a secure VPN connection. No unsecured network access shall be allowed to access the cloud- based system. The Contractor shall reconfigure all manufacture default passwords on all supplied devices to custom, unique complex alpha numeric passwords comprised of special symbols, upper case, lower case and numbers that are a minimum of 8 characters in length. The Contractor shall generate a complete list of all proposed passwords. That list shall be submitted to MaineDOT and the Engineer for approval. No manufacture default passwords shall be allowed and no duplicate passwords shall be allowed.

The Contractor shall configure within the expanded cloud based CMS the ability to remotely access, configure and view all detection systems installed within the project.

All client and device based remote access operations to the expanded CMS shall be performed via a secure VPN tunnel using encryption methods to ensure network security. The Contractor shall create a network security connection document to be submitted to MaineDOT and the Engineer for approval.

The expanded CMS, SPM and the Connected Vehicle (CV) system shall communicate directly to all ATC controllers, cabinet assemblies and all in cabinet devices capable of supporting remote access; remote interface units are unacceptable. The system shall provide continuous communications, once per second at a minimum, to all controllers and connected devices supplied under the project.

b) Advanced Transportation Controller The work under this Item shall include the furnishing and installation of an Advanced Transportation Controller (ATC) at the project location as shown on the plans. The ATC controller shall be supplied and installed in existing or repurposed cabinet at the project intersection and specified elsewhere in this specification. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to fully comply with the requirements as defined in these specifications. The ATC supplied shall conform to the 2020 MaineDOT Standard Specifications sections 718.07 and as amended under the following requirements:

The controller units shall include a temperature compensated, minimum 16 lines by 40-character LCD display (320x240 pixel) with LED backlight. The controller operating system (OS) shall be Linux and contain a Flash File System to allow for controller software upgrades.

All controller units supplied under this project shall contain the appropriate version of the Linux operating system, Board Support Package (BSP), Signal Phasing and Timing (SPaT) support and internal processing levels necessary to fully support CMS signal operation as described in these specifications.

All controllers shall support 1/10<sup>th</sup> second high-resolution data event logging which provides detailed operational information for the generation of enhanced performance metrics. This would include construction of Purdue Coordination Diagrams, time space diagrams and Measures of Effectiveness (MOE). The controller units shall allow log files to be retrieved remotely or a local connection. The controllers shall also be supplied with the ability to automatically back up log files to an external storage device such as a USB flash drive or SD card or transmitted to a remote server. Log files shall be retained within the controller's local memory for a minimum of 24 hours. Log files shall be provided in CSV format containing the event time stamp, event code and event parameter for each line. The controllers shall be supplied with the ability to automatically back-up the controller data base to an external storage device such as a USB flash drive or SD card after any programming change (either from the keyboard or remotely).

All controller units supplied as part of the project shall be the same as to make, model and firmware version to insure compatibility with the CMS system.

When any ATC controller software updates are released by the manufacturer (whether routine enhancement updates, releases to fix software issues, or a combination of both), it shall be possible for personnel from the agencies to update the software in all its controller units without any assistance or supervision from any other agency, firm, or persons. At any time that operating software updates are released by the Controller Unit manufacturer, they shall be made available to MaineDOT within a reasonable time period. Software updates by the Controller Unit manufacturer shall be made available to MaineDOT for the operating life of the original Controller Unit product at no additional cost to the agencies, except as expressly identified in the Contract documents. A manufacturer or manufacturer's representative support engineer shall be identified as the technical point of contact for the resolution of specific field operational issues including controller, detection, and communications related events that are encountered during the execution of this project. The controller unit shall log which user installed the updates and provide a rollback feature to go back to the previous version in the event the update is not compatible with other system elements.

The Contractor shall supply to MaineDOT and the Engineer, all release notes from the controller manufacturer of currently supplied and future firmware versions, when they become available in hardcopy and/or electronic version. The required supply of release notes to MaineDOT and the Engineer from the manufacturer shall be in place for 10 years. In addition, the Contractor shall notify MaineDOT and the Engineer when the manufacturer releases new

controller firmware versions. The Contractor shall electronically deliver the new manufacturer released firmware to MaineDOT and the Engineer. The delivery of the firmware shall be via email or secure remote file transfer.

At a minimum, all ATC controllers shall be supplied and installed to comply with the following requirements. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to satisfy the requirements as defined in these specifications:

- a. Programming documentation fully defining the coding (compiler and C libraries) used to create the ATC controller applications residing in the unit.
- b. The source code used to produce and support the Linux kernel environment (Board Support Package).
- c. A manufactures Software Development tool Kit (SDK) for supplied firmware version to allow for future system modifications/expansions.
- d. Shall be designed to operate in the following environmental conditions:
  - i. -40°C to 74°C operating temperature range
  - ii. -40°C to 85°C storage temperature range
  - iii. 10% to 95% relative humidity (non-condensing)
  - iv. 89 VAC to 135 VAC, 60 Hz
- e. An operating system with an expected useful product life of at least ten years.
- f. Connectors for all external input/output functions that are rigidly defined by the ATC, NTCIP, and national standards.
- g. Based on application, connectors for external input/output functions shall be identical in quantity, size, type, configuration, and pinout for all manufacturer's units used in the project.
- h. A minimum of two 100/1000BaseT Ethernet connectors that provides system communications functions.
- i. Specific user specified actions when the ATC detects the failure of CMT system communication.
- j. Supplied with all necessary hardware and software elements needed to fully support Connected Autonomous Vehicle (CAV) operations utilizing 5G communications.
- k. Supplied with all necessary ATC hardware, software elements and instruction procedures needed to facilitate the extraction and processing of the SPM data.
- l. Supplied with 2 USB 2.0 ports, at a minimum.

- m. Supplied with 2 SDLC ports, at a minimum.
  - i. The SDLC ports shall be fully functional and operate simultaneously with all other ports.
  - ii. The SDLC ports shall support the following baud rates:
    - 1. SDLC Port 1
      - a. Asynchronous Rates (bps) 1200 / 2400 / 4800 / 9600 / 19.2k
        - i. / 38.4k / 57.6k / 115.2k / 230.4k
    - 2. SDLC Port 2 (SIU)
      - a. Synchronous Rates (bps) 153.6k / 614.4k
- n. Contain real-time context sensitive HELP screens.
- o. Include a time-of-day, day-of-week, week-of-year scheduler.
- p. Include dedicated phase detection inputs, pedestrian detection inputs, and system detection inputs.
- q. Supplied and installed with the ability of receiving database downloads and sending database uploads to/from a field computer using a locally installed CMS client software via an Ethernet cable.
- r. Supplied with the ability to provide 12 unique preemption inputs.
- s. Contain the ability to alter the controller unit's internal database using a built-in front panel keyboard, using a computer connected to the controller unit with a USB cable or an Ethernet cable, and remotely using the central management system application. In addition, a remote access system shall be provided using Telnet and/or HTTPS.
- t. Include an internal database which stores all configurable parameters, including but not limited to phase timings, phase sequencing, overlaps, coordination parameters, preemption and priority parameters, time base parameters, communications parameters, detection parameters, flashing operation parameters, and security parameters.
- u. Collect and process all high-resolution enumerations as defined in the report "Indiana Traffic Signal Hi Resolution Data Enumerations", dated 2019.
- v. Include detector failure algorithms that takes user defined actions when certain user defined criteria are met.
- w. Be supplied with the ability to generate user defined alarms and alerts.

c) Signal Performance Measures. The system shall be furnished within the existing MaineDOT dashboard monitoring system. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to fully comply with the requirements as defined in these specifications. Intersections must be able to remotely report to the system:

- i. Intersection Status
  - 1. Flash
  - 2. Door Status

- 3. Temperature
- 4. ATC Time
  - ii. Current Phase in operation
  - iii. Cycle Length
  - iv. Adaptive or non-adaptive operation
  - v. ATC alarms
  - vi. CV system alarms
  - vii. Detector faults
  - viii. SPM reports

SPM Reports SPM reports shall be provided which can be used by MaineDOT for planning, operations and maintenance purposes. The reports shall be user definable as to format (hardcopy and/or electronic). The generation of reports shall be user definable and include manual and/or a time scheduled basis. These reports shall include the following:

- i. Planning
  - a) Turning Movement Counts (TMC)
  - b) Approach Volumes
  - c) Pedestrian Delay
  - d) Purdue Coordination Diagrams
- ii. Operations
  - a) Arrival on Green (AOG)
  - b) Arrival on Red (AOR)
  - c) Split Monitoring
  - d) Preempt Service Requests
  - e) Approach Delay
  - f) Split Failure
- iii. Maintenance
  - a) Vehicle Detector Faults (Constand Call/No Call)
  - b) Pedestrian Detector Fault (Stuck Button)
  - c) Signal on Flash
  - d) Power Failure
  - e) Communications Failure
  - f) Manual Control Active

d) Connected Vehicle System The work under this Item shall include furnishing and installation of a Connected Vehicle (CV) system required to interface vehicles equipped with authorized CV devices with local controllers. This work includes all intersection controllers, software licenses, cloud- based costs, system testing, and all other equipment, materials, appurtenances and incidental costs necessary to provide a complete, fully operational Connected Vehicle (CV) system as specified herein and as shown on the plans. The Signal Phase and Timing (SPaT) Infrastructure System consists of all the hardware and software devices supplied under the project to support connected vehicle operations. The Contractor shall integrate the proposed Connected Vehicle (CV) system to be installed under this project on a Contractor

created cloud-based system architecture. The Contractor shall furnish and install the means whereby MaineDOT and others shall be able to monitor and control the system remotely, as allowed by the system administrator. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to fully comply with the requirements as defined in these specifications. The CV system shall initially be programmed to support the following applications without the need for additional costs and/or subscription services:

- i. Signal Phase and Timing (SPaT)
- ii. Traveler Information Messages (TIM)
- iii. Work Zone Alert
- iv. Emergency Vehicle Preemption (EVP)
- v. Snowplow Signal Priority
- vi. Freight Signal Priority
- vii. Pedestrian Warning (PedSafe)
- viii. Queue Warning
- ix. Curve Speed Warning
- x. User Data Pass Through

The CV system and the CMS shall operate as an integrated system allowing for the CMS to report on alarms generated by the CV system.

The CV system shall consist of Roadside Units (RSU) and allow for On-Board Units (OBU). In addition, the CV system shall allow for the broadcast of SPaT, BSM and Personal Information Message (PIM) to mobile devices utilizing a mobile application for IOS and Android. The mobile application shall be branded with MaineDOT information for deployment to the general public. There shall not be any fees associated with the downloading or using the CV application.

The Contractor shall be responsible for all costs and fees associated with integration and maintenance of this CV system onto the cloud-based system during the construction and fine-tuning period. Additionally, the Contractor is responsible for all costs associated to support operations, ongoing access, maintenance and any other incidental fees related to the cloud-based system to maintain proper operation and remote system access for this CV system for a period of 120 months from the end of the fine-tuning period.

In addition to the requirements contained within the specification, the CV system shall be supplied and installed with the following functionality:

- i. Broadcast of SPaT, BSM, PIM messages to registered OBU and mobile device applications.
- ii. Allow for the use of “GEO Fencing” to provide for “Pre-emption and Priority” calls to the ATC controller based on location of the OBU and mobile device application. Have the ability to support 5G communications.



- iii. Shall receive traffic signal data from the Traffic Signal Controller that is compliant with the standard NTCIP 1202 v3.
- iv. In locations where the SPaT Infrastructure System supports Signal Preemption, the SPaT Infrastructure System shall receive preemption status from the Traffic Signal System. In locations where the SPaT Infrastructure System supports signal priority applications, the system shall receive signal control and preemption/priority requests.
- v. Shall support Connected Vehicle enabled Pedestrian in Signalized Crosswalk Warning and/or Mobile Accessible Pedestrian Signal Systems (PED-SIG) applications.
- vi. Shall synchronize an internal system clock with Coordinated Universal Time (UTC) and be accurate within 10 milliseconds (ms) of UTC at all times.
- vii. Shall use a point in time – also referred to as time marks (i.e. minutes and seconds of the year) as opposed to countdowns (e.g. “for the next 12 seconds”) to define start and end times.
- viii. The SPaT Intersection status shall include whether the intersection is operating in failure flash.
- ix. The SPaT message shall uniquely identify the intersection for which it applies and shall support the ECO Departure application as implemented, each SPaT message shall include maneuver assist data. The message shall show the intersection status including whether the intersection is operated as fixed time or actuated control and shall show the intersection status including whether the intersection is currently operating in preemption or priority.
- x. The SPaT message shall contain Movement States. The number of Movement States shall correspond to the number of controller traffic and pedestrian phases that are currently in use at the intersection.
  - 1) Movement State shall describe the current interval for each movement.
  - 2) Movement State shall indicate when the current interval will end for each movement.
  - 3) Movement State shall indicate when that movement is estimated to next be green if it is not currently green.
- xi. SPaT message shall include a minimum end time defined to be the earliest time mark when the current phase will end, as well as a maximum end time defined to be the latest time mark when the current phase will end. The message shall contain a

likely end time that is the most likely end time of the current phase. The SPaT Infrastructure System shall make the maximum end time equal to the minimum end time when maximum end time is included in the SPaT message for fixed signal time.

- xii. The SPaT Infrastructure System shall assemble SPaT messages that conform to the SAE J2735 standard format. The System shall include an interface for users to manage the SPaT Infrastructure System and its data. This User Interface shall be browser-based and provide access to authorized users for all management, configuration and support functionality as described in Groups 3 and 12.
- xiii. The SPaT Infrastructure System User Interface shall be accessible via remote portable devices through the Internet and comply with the agency's security policy for remote access.
- xiv. The SPaT Infrastructure System User Interface shall include security compliant with agency policy to limit user access, and shall only be accessible to authorized users. The SPaT Infrastructure System shall have a mechanism for an administrator to configure user roles such that different users are limited to different subsets of functionalities.
- xv. The SPaT Infrastructure System User Interface shall display information to users and shall provide a GIS-based digital map to geographically view the System and manage data.
- xvi. The SPaT Infrastructure System User Interface shall display information to users on the operation, configuration and diagnostics of the System. Information shall be provided to users in text and graphical formats as appropriate.
- xvii. The SPaT Infrastructure System User Interface shall notify users of system alerts as defined in Group 12.
- xviii. The SPaT Infrastructure System shall manage a MAP database, and shall include a database to store MAP data. The System shall have a mechanism to configure the MAP data to be applied to the intersection associated with the SPaT Infrastructure System. The SPaT Infrastructure System shall store a unique MAP message for each SPaT intersection.
- xix. The SPaT Infrastructure System shall manage MAP dynamic features. In situations of turn restrictions (e.g. not permitting right turn on red or left turn allowed/not allowed), the MAP message shall define two lanes in the same location – one allowing the movement, the other not allowing the movement. Each lane shall be revocable. At intersections with reversible lanes, or movements restricted during selected periods (e.g. left turn not allowed during peak periods), the MAP

messages shall designate these lanes as revokable. In situations of reversible lanes, MAP messages shall define two lanes in the same location, one an ingress lane, and one an egress lane. Each lane shall be revokable.

- xx. The SPaT Infrastructure System shall assemble the content for standard MAP messages. The Intersection Geometry shall be changed if and only if the map information is updated. Each MAP message shall uniquely identify the intersection for which it applies.
- xxi. The SPaT Infrastructure System shall increment the MAP message count whenever any data element in the message except the time stamp changes.
- xxii. Each MAP message shall identify each lane approaching and departing from the intersection and shall provide an intersection unique ID for the lane. In addition, each MAP message shall provide the directionality of each lane and shall identify all ingress and egress lanes. Each ingress and egress lane shall be described by at least two node points that depict the center of the lane.
- xxiii. Each MAP message shall separately identify each possible connection between ingress and egress lanes and provide an intersection unique ID for the connection. Each MAP message shall also include the lane, maneuver and signal group associated with each connection.
- xxiv. Each ingress and egress lane shall be depicted by enough nodes such that the distance between the actual curved lane center line and the straight line connecting nodes shall not be more than half of the lane width. When a single connection between an ingress lane and an egress lane is controlled by more than one signal group, such as a protected/permissive left turn movement, the MAP message shall separately identify each signal group that controls the movement on that connection. MAP message shall define ingress lanes from the stop bar to a minimum of 1000 feet before the stop bar. In locations where PED-SIG or Pedestrian Warning applications are deployed, MAP messages shall include crosswalk lane types.
- xxv. When connecting to another intersection, each MAP message shall identify the remote intersection to be connected.
- xxvi. The SPaT Infrastructure System shall assemble MAP messages that conform to the SAE J2735 standard message format. The MAP messages shall adhere to the SAE J2735 March 2016 standard. The System shall assemble other standardized MAP messages, as needed.
- xxvii. The SPaT Infrastructure System shall obtain position correction data. The System shall either calculate or obtain GPS position correction data in the RTCM 10403

Message Type 1001 format that corrects for the current atmospheric conditions in the area surrounding the intersection. The SPaT Infrastructure System shall either generate or obtain the coordinates of the antenna reference point in the RTCM 10403 Message Type 1005 format.

- xxviii. The SPaT Infrastructure System shall assemble standard RTCM correction messages for the following RTCM version 3.0 message types:
  - 1) Message Type 1001 – GPS L1 observations
  - 2) Message Type 1005 – Antenna Reference Point coordinates.
- xxix. The SPaT Infrastructure System shall generate new RTCM Correction messages which conform for the SAE J2735 standard message format with the most current correction data at a minimum frequency of 5 Hz. The system shall assemble position correction messages that comply with additional standards, as needed.
- xxx. In locations where vehicle data is received, the SPaT Infrastructure System shall receive and process security credentials and digital signatures to be used to validate message received.
- xxxi. In locations supporting PED-SIG applications, the SPaT Infrastructure System shall receive valid Personal Safety Message (PSM) data broadcast by the Personal Information Device Systems within range of the SPaT Infrastructure System.
- xxxii. The SPaT Infrastructure System shall both receive and publish data over alternate communication mediums.
- xxxiii. The SPaT Infrastructure System shall monitor for signal preemption and priority requests.
- xxxiv. The SPaT Infrastructure System shall process Signal Request Messages (SRM) that adhere to the SAE J2735 March 2016 standard from SPaT Vehicle Systems as soon as they are received.
- xxxv. The SPaT Infrastructure System shall process preemption/priority request cancellations received from SPaT Vehicle Systems, and shall request preemption and priority.
- xxxvi. The SPaT Infrastructure System shall assemble Signal Status Messages in other standard formats with a maximum latency of 10 ms from the time the System receives information from the Traffic Signal System.

- xxxvii. The SPaT Infrastructure System shall monitor BSM, PVD, and PSM.
- xxxviii. The SPaT Infrastructure System shall receive BSM and PVD from vehicles, as well as receive PSM from Personal Information Devices (PIDs). The System shall convert BSM and PSM to detector calls.
- xxxix. In locations where the intent is to convert BSMs to detector calls, the SPaT Infrastructure System shall have defined BSM geographic detection zones that define the geographic area assigned to each signal phase at each intersection detecting BSM.
- xl. In locations where the intent is to convert PSMs into detector calls, the SPaT Infrastructure System shall have defined PSM geographic detection zones that define the geographic area assigned to each signal pedestrian phase at each intersection detecting PSM.
- xli. The SPaT Infrastructure System shall convert the BSM and PSM messages received into detector calls for their corresponding detection zones.
- xl.ii. When the SPaT Infrastructure System receives a BSM located within the respective detection zone, the SPaT Infrastructure System shall generate detector calls for the appropriate signal phase.
- xl.iii. The SPaT Infrastructure System shall continue to generate detector calls whenever it receives BSM from one or more vehicles in a detection zone for BSM.
- xl.ii. When the SPaT Infrastructure System receives a PSM located within the respective detection zone, the SPaT Infrastructure system shall convert each PSM that is requesting a WALK signal into a pedestrian crossing detector call for the signal pedestrian phase assigned to the PSM detection zone.
- xl.ii. The SPaT Infrastructure System shall assemble pedestrian crossing detector calls to include the relevant crosswalk the pedestrian is requesting to access.
- xl.ii. When multiple PSM messages are received from more than one PID for a single WALK, the SPaT Infrastructure System shall generate no more than one detector call for a given phase within each cycle.
- xl.ii. The SPaT Infrastructure System shall prepare actuation reports to be sent to the Traffic Signal System in compliance with NTCIP 1202 v3, at a minimum.

- xlvi. In locations where BSM and PVD data is collected, the SPaT Infrastructure System shall aggregate BSM and PVD data.
- xlix. The SPaT Infrastructure System shall exchange data with the Traffic Data System. In locations where the Traffic Data System utilizes data from the SPaT Infrastructure System, the SPaT Infrastructure System shall send traffic data messages to the Traffic Data System.
  - 1. The SPaT Infrastructure System shall exchange aggregated BSM data and aggregated PVD data. It shall also obtain valid security credentials.
  - li. The SPaT Infrastructure System shall comply with all security credentials, certification, and processes defined by the National Security Credentials Management System (SCMS), or another credential management system used by the SPaT Infrastructure System.
  - lii. The SPaT Infrastructure System certification shall include all of the security credentials necessary to support each application.
  - liii. The SPaT Infrastructure System shall have a mechanism for receiving updated security credential certification from the Security Back End System. These security credential certifications shall be stored for use in broadcasting messages to SPaT Vehicle Systems for their validation purposes. The SPaT Infrastructure System shall request updated security credentials from the Security Back End System a configurable period of time in advance of when the current security credential expires.
  - liv. The SPaT Infrastructure System shall receive updates from the Security Back End System regarding revoked security credentials. Data regarding revoked security credentials shall be stored by the system.
  - lv. The SPaT Infrastructure System shall ignore data received from SPaT Vehicle Systems whose security credentials have been revoked and shall send data to the Security Back End System regarding invalid security credentials received from SPaT Vehicle Systems. The System shall verify the credentials it receives.
  - lvi. The SPaT Infrastructure System shall have a mechanism for validating the security credentials received from SPaT Vehicle Systems and shall check the security credentials of messages that include security credential data received from SPaT Vehicle Systems.
  - lvii. The SPaT Infrastructure System shall validate the security credentials of messages



received from SPaT Vehicle Systems with valid credentials.

- lviii. The SPaT Infrastructure System shall identify as revoked the security credentials of messages received from SPaT Vehicle Systems that match a revoked security credential.
- lix. The SPaT Infrastructure System shall ignore messages received from SPaT Vehicle Systems without a valid security credential.
- lx. The SPaT Infrastructure System shall apply security credentials to broadcasts. These shall broadcast valid security credentials in the form of digital certificates signed by a trusted certificate authority for those messages broadcast with security credential information.
- lxi. The SPaT Infrastructure System shall manage access to the system network and shall comply with agency security policy to block malicious attempts, such as Distributed Denial of Service (DDOS) attacks, malware distribution, or other hacking efforts, to infiltrate the agency networks and systems.
- lxii. The SPaT Infrastructure System shall provide a mechanism for users to configure data exchanges between the SPaT Infrastructure System and the Security Back-End System that are compliant with agency security and network policies.
- lxiii. The SPaT Infrastructure System shall have a mechanism for managing logs of system activity. The SPaT Infrastructure System shall log and store records of data obtained by the System, including:
  - 1) Traffic Signal System data.
  - 2) GPS correction data.
  - 3) MAP data.
  - 4) Messages from SPaT Vehicle Systems and PIDs, including BSM, PVD, PSM and SRM.
- lxiv. The SPaT Infrastructure System shall log and store the messages assembled by the System, including the content, time of generation and time of broadcast. The following shall be logged and stored:
  - 1) SPaT Messages Assembled by the System
  - 2) MAP Messages Assembled by the System
  - 3) RCTM Messages Assembled by the System
  - 4) SSM Messages Assembled by the System

- 5) Location of Origin for all Stored Data (such as the location/intersection for each message broadcast received)
- 6) User-Initiated Changes in System Configuration (including the user, date and time, and configuration change)
- 7) System Errors and Alerts (such as for loss of power, loss of connection to other systems, failure to process data and messages)
- 8) User Activity, Including, at Minimum, User and Time of Log in and Log out for Each Session, Time and Location of Failed Login Attempts

lxv. The SPaT Infrastructure System shall have a mechanism for selecting stored data for deletion and then deleting that data.

lxvi. The SPaT Infrastructure System shall have a mechanism for configuring multiple logs to reflect:

- 1) Log start and end times.
- 2) Data types and activities to be included in log.
- 3) Locations and/or devices to be included in log.

lxvii. The SPaT Infrastructure System shall provide a mechanism for users to configure the messages broadcast by the System, as well as to select the appropriate standardized format(s) for messages to be broadcast.

lxviii. The SPaT Infrastructure System shall have a mechanism for users to configure the data elements to include in:

- 1) SPaT Messages
- 2) MAP Messages
- 3) RTCM Messages
- 4) SSM
- 5) PSM

lxix. The SPaT Infrastructure System shall have a mechanism for users to configure the frequency of broadcast for:

- 1) SPaT Messages
- 2) MAP Messages
- 3) RTCM Messages
- 4) SSM
- 5) PSM

- lxx. The SPaT Infrastructure System shall have a mechanism for managing MAP data, as well as a mechanism for the user to select the format of MAP data to be imported from the SPaT Infrastructure System's usable formats, including XML.
- lxxi. The SPaT Infrastructure System shall have a mechanism for the user to submit MAP data, and for users to be notified of successful MAP data submissions. The SPaT Infrastructure System shall provide a mechanism for graphically displaying the location and layout of submitted MAP data. Users shall be notified of errors in the structure of the submitted data, such as missing required data in the wrong format, or data outside the range of allowable values.
- lxxii. The SPaT Infrastructure System shall have a mechanism for the user to create MAP data within the interface.
- lxxiii. The SPaT Infrastructure System shall include a "wizard" environment for data entry that describes the type of data expected in each field. For example, the User Interface may inform the user of the number of digits of precision required for latitudes and longitudes.
- lxxiv. The SPaT Infrastructure System shall have a mechanism for graphically displaying the location and layout of entered MAP data.
- lxxv. The SPaT Infrastructure System shall allow the user to name, copy, modify and delete MAP data of one or more configurations for each intersection.
- lxxvi. The SPaT Infrastructure System shall have a mechanism for users to configure GPS correction.
- lxxvii. The SPaT Infrastructure System shall have a mechanism for users to configure the source of GPS position correction data (e.g. define the source, define the polling mechanism and approach). In locations where the source of position correction data is a regional or national source of data (e.g. Internet accessible data), the configuration shall include the location of the intersection to enable the acquisition of GPS correction data to obtain the correct values. At locations where messages are received from SPaT Vehicle Systems and PIDS, the SPaT Infrastructure System shall have a mechanism for the user to manage the detection zones defined for receiving data from SPaT Vehicle Systems and PIDs.
- lxxviii. The SPaT Infrastructure System shall have a mechanism for the user to create and modify detection zones and associate the detection zones to received message types and to vehicle and pedestrian movements at each intersection. It shall also have a mechanism for the user to graphically define detection zones within a digital map environment, as well as to automatically identify when a vehicle or

pedestrian does not have an associated detection zone and notify the user.

- lxxix. The SPaT Infrastructure System User Interface shall be accessible via workstations on the agency network, and be browser-based and provide access to authorized users for all management, configuration and support functionality.
- lxxx. The SPaT Infrastructure System User Interface shall be accessible via the cloud-based system or via secure VPN connection. In addition, it shall be accessible via remote Microsoft/Andriod/IOS devices through a secure internet connection.
- lxxxi. The SPaT Infrastructure System User Interface shall configured by the Contractor to be only be accessible by authorized users.
- lxxxii. The SPaT Infrastructure System shall comply with MaineDOT IT security policy for remote access.
- lxxxiii. The SPaT Infrastructure System shall have a mechanism for an administrator to configure user roles such that different users are limited to different subsets of functionalities.
- lxxxiv. The SPaT Infrastructure System shall provide a GIS-based digital map to geographically view the System and manage data. It shall display information to users on the operation, configuration and diagnostics of the System. Information shall be provided to users in text and graphical formats as appropriate.
- lxxxv. The SPaT Infrastructure System shall include a database to store MAP data. In addition, it shall have a mechanism to configure the MAP data to be applied to the intersection associated with the SPaT Infrastructure System. The Intersection Geometry shall be changed if and only if the map information is updated. Each MAP message shall uniquely identify the intersection for which it applies.
- lxxxvi. The SPaT Infrastructure System shall store a unique MAP message for each intersection, that shall be stored locally within the intersection Road Side Unit (RSU) as well as the cloud based system.
- lxxxvii. At intersections with reversable lanes, or movements restricted during selection periods (e.g. left turn not allowed during peak periods), the MAP messages shall designate these lanes as revokable.
- lxxxviii. In situations of reversable lanes, MAP messages shall define two lanes in the same location, one an ingress lane, and one an egress lane. Each lane shall be

revokable.

- lxxxix. In situations of turn restrictions (e.g. not permitted right turn on red or left turn allowed/not allowed), the MAP message shall define two lanes in the same location one allowing the movement, the other not allowing the movement. Each lane shall be revokable.
- xc. The SPaT Infrastructure System shall increment the MAP message count whenever any data element in the message except the time stamp changes. Each Map message shall identify each lane approaching and departing from the intersection and shall provide an intersection unique ID for the lane.
- xc. i. Each MAP message shall provide the directionality of each lane, as well as identify all ingress and egress lanes. Each ingress and egress lane shall be described by at least two node points that depict the center of the lane. Each MAP message shall separately identify each possible connection between ingress and egress lanes and provide an intersection unique ID for the connection. In locations where PED SIG or Pedestrian Warning applications are deployed, MAP messages shall include crosswalk lane types.
- xc. ii. MAP message shall define ingress lanes from the stop bar to a minimum of 1000 feet before the stop bar.
- xc. iii. When connecting to another intersection, each MAP message shall identify the remote intersection to be connected.
- xc. iv. The SPaT Infrastructure System shall sign outgoing broadcast messages with a valid security key.
- xc. v. In locations where vehicle data is received, the SPaT Infrastructure System shall receive and process security credentials and digital signatures to be used to validate message received.
- xc. vi. The SPaT Infrastructure System shall comply with all security credentials, certification, and processes defined by the National Security Credentials Management System (SCMS).
- xc. vii. The Contractor shall configure the system to provide for the generation and broadcast of Signal Phasing and Timing (SPaT) data. This CV function shall be fully programed in all related CV devices to enable SPaT messages to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to

identify per intersection parameters needed to support the SPaT CV functions. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to enable the SPaT function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

- xcviii. The Contractor shall define and create geo-fence zones at maximum broadcast distance at all intersections as part of the project. The geo-fence zones shall initially be programed by the Contractor to broadcast the per phase/per lane SPaT message data to properly equipped vehicles containing authorized CV devices.
- xcix. The Contractor shall create and submit a text narrative for approval by the Resident or MaineDOT prior to installation describing how the SPaT system will operate.

e) Traveler Information Messages The Contractor shall configure the system to provide for the generation and broadcast of Traveler Information Message data. This CV function shall be fully programed in all related CV devices to enable TIM messages to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the TIM CV functions. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to enable the TIM function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at maximum broadcast distance at the intersection included in this project. The geo-fence zones shall initially be programed by the Contractor to broadcast the per phase/per lane TIM message data to properly equipped mobile CV systems, OBU and/or mobile devices.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the TIM system will operate.

f) Work Zone Alert The Contractor shall configure the system to provide for the generation and broadcast of Work Zone Alert Message data. This CV function shall be fully programed in all related CV devices to enable Work Zone Alert messages to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the Work Zone Alert CV functions. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to enable the Work Zone Alert function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at maximum broadcast distance at the intersection included in this project. The geo-fence zones shall initially be programed by the Contractor to broadcast the per phase/per lane Work Zone Alert message data to properly



equipped vehicles containing authorized CV devices.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the Work Zone Alert system will operate.

g) Emergency Vehicle Preemption The Contractor shall configure the system to provide for an Emergency Vehicle Preemption (EVP) system operation (see also 718.15). This CV function shall be fully programed in all related CV devices to enable EVP for properly equipped emergency vehicles with the appropriate CV elements to generate a preemption request. No additional hardware or software costs and/or subscription fees/costs shall be allowed to enable the EVP as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence detection zone at maximum broadcast distance at the intersection included in this project. A preemption request message shall be generated upon entry of an emergency vehicle into a defined geo-fence detection zone. The preemption request message shall be transmitted via the OBU installed in the emergency vehicle. The preemption message shall be received by the CV interface at the project intersection. The Contractor shall configure all relevant devices to accept the preemption signal request and initiate EVP operation. Emergency vehicle preemption shall override freight vehicle priority. The CMS shall log all CV actions into a system searchable database.

The Contractor shall create and submit a text narrative for approval by the Resident or MaineDOT prior to installation describing how the EVP system will operate.

h) Snowplow Signal Priority The Contractor shall configure the system to provide for a snowplow priority system operation. This CV function shall be fully programed in all related CV devices to enable a snowplow vehicle, properly equipped with the appropriate CV elements to generate a priority request. The Contractor shall coordinate with MaineDOT maintenance operations to schedule a time to modify and install CV devices in MaineDOT designated snowplow vehicles. The installation of CV devices shall not have any adverse impact on the vehicle snowplow operations. No additional hardware or software costs and/or subscription fees/costs shall be allowed to enable the snowplow operations as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price. At a minimum, any OBU shall be fully integrated by the Contractor to the following interfaces:

- i. Snowplow vehicle OBU2 port
- ii. Snowplow blade control unit
- iii. Snowplow spreader control unit

The Contractor shall define and create geo-fence detection zone at the project intersection. The geo-fence detection zone shall initially be programed by the Contractor at a four hundred (400') foot distance from the intersection stop bar at each vehicle approach. A conditional priority request message shall be generated upon entry of a snowplow vehicle into a defined geo-fence detection zone and whenever the snowplow is in operation (i.e. snowplow

blade down and/or spreader activated). The priority request message shall be transmitted via the OBU installed in the snowplow vehicle. The priority message shall be received by the CV interface at each of the project intersection. The Contractor shall configure all relevant devices to accept the priority signal request and conditionally initiate snowplow vehicle priority operation. Emergency vehicle preemption shall override snowplow vehicle priority. Priority operation shall not cause the traffic controller to drop out of coordination. The CMS shall log all CV actions into a system searchable database.

When a priority request is received at the controller, a priority operation shall initiate. If the controller is active in the phase for the approach requesting priority operation the green display shall be extended. If the controller is active in a phase other than the one requested, that phase green time shall be reduced. The amount of time that a phase is extended or reduced shall be determined on a location by location basis. Final settings shall be provided by MaineDOT and/or the Engineer.

The Contractor shall create and submit a text narrative for approval by the Resident or MaineDOT prior to installation describing how the snowplow CV system will operate.

i) Freight Signal Priority The Contractor shall configure the system to provide for a freight priority system operation. This CV function shall be fully programed in all related CV devices to enable a freight vehicle, properly equipped with the appropriate CV elements to generate a priority request. No additional hardware or software costs and/or subscription fees/costs shall be allowed to enable the freight operations as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence detection zone at the project intersection. The geo-fence detection zone shall initially be programed by the Contractor at a four hundred (400') foot distance from the intersection stop bar at each vehicle approach. A priority request message shall be generated upon entry of a freight vehicle into a defined geo-fence detection zone. The priority request message shall be transmitted via the OBU installed in the freight vehicle. The priority message shall be received by the CV interface at the project intersection. The Contractor shall configure all relevant devices to accept the priority signal request and conditionally initiate freight vehicle priority operation. Emergency vehicle preemption shall override freight vehicle priority. Priority operation shall not cause the traffic controller to drop out of coordination. The CMS shall log all CV actions into a system searchable database.

When a priority request is received at the controller, a priority operation shall initiate. If the controller is active in the phase for the approach requesting priority operation the green display shall be extended. If the controller is active in a phase other than the one requested, that phase green time shall be reduced. The amount of time that a phase is extended or reduced shall be determined on a location by location basis. Final settings shall be provided by MaineDOT and/or the Engineer.

The Contractor shall create and submit a text narrative for approval by the Resident or

MaineDOT prior to installation describing how the freight CV system will operate.

j) Pedestrian Warning (PedSafe). The Contractor shall configure the system to provide for the generation and broadcast of Pedestrian Warning Message data. This CV function shall be fully programed in all related CV devices to enable Pedestrian Warning messages to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the Pedestrian Warning CV functions. No additional hardware or software costs and/or subscription fees/costs shall be allowed to enable the Pedestrian Warning function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at the project intersection. The geo-fence zones shall initially be programed per location by the Contractor, as approved by MaineDOT, to broadcast the per phase Pedestrian Warning message data to properly equipped vehicles containing authorized CV devices.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the Pedestrian Warning system will operate.

k) Queue Warning. The Contractor shall configure the system to provide for the generation and broadcast of Queue Warning Message data. This CV function shall be fully programed in all related CV devices to enable Queue Warning messages to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the Queue Warning CV functions. No additional hardware or software costs and/or subscription fees/costs shall be allowed to enable the Queue Warning function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at the project intersection. The geo-fence zones shall initially be programed per location by the Contractor, as approved by MaineDOT, to broadcast the per phase Queue Warning message data to properly equipped vehicles containing authorized CV devices.

The Contractor shall create and submit a text narrative for approval by the Resident or MaineDOT prior to installation describing how the Queue Warning system will operate.

l) Curve Speed Warning The Contractor shall configure the system to provide for the generation and broadcast of Curve Speed Warning Message data. This CV function shall be fully programed in all related CV devices to enable Curve Speed Warning messages to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the Curve Speed Warning CV functions. No additional hardware or software costs and/or subscription fees/costs shall be allowed to enable the Curve Speed

Warning function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at the project intersection. The geo-fence zones shall initially be programed per location by the Contractor, as approved by MaineDOT, to broadcast the per phase Curve Speed Warning message data to properly equipped vehicles containing authorized CV devices.

The Contractor shall create and submit a text narrative for approval by the Resident or MaineDOT prior to installation describing how the Curve Speed Warning system will operate.

m) User Data Pass-Through. The Contractor shall configure the system to provide for the ability to allow for User Data Pass-Through. This CV function shall be fully programed in all related CV devices to enable User Data Pass-Through to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the User Data Pass-Through CV functions. No additional hardware or software costs and/or subscription fees/costs shall be allowed to enable the User Data Pass-Through function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at the project intersection. The geo-fence zones shall initially be programed per location by the Contractor, as approved by MaineDOT, to broadcast the per approach User Data Pass-Through to properly equipped vehicles containing authorized CV devices.

The Contractor shall create and submit a text narrative for approval by the Resident or MaineDOT prior to installation describing how the User Data Pass-Through system will operate.

n) Technical Support. Telephone technical support shall be provided to MaineDOT for ten (10) years by the ATC, SPM, Stop line vehicle detection system, Advanced vehicle detection system, and CV system manufactures. The cost for this telephone technical support shall be included in the bid price for the project. Telephone technical support shall be available to MaineDOT Monday through Friday, during normal business hours. Local field technical support must be available for a period of 60 months after the "System Startup" project phase is completed.

o) Start-Up and System Loading. The system supplier shall initiate complete system operation including ATC, SPM, Stop line vehicle detection system, Advanced vehicle detection system, CV system, Hosted cloud-based systems, FMU, the communications system, and remote monitoring and control of CMS operations as shown on the plans and/or directed by MaineDOT and the Engineer. After the supplier has initiated system operation, the system shall be run for a continuous 7-day initial operational testing period. If any major functions of the system fail to operate during this testing period, as determined by MaineDOT and/or the Engineer, the supplier shall correct or repair the system and the continuous 7-day testing

period shall be restarted. At the completion of a successful 7-day testing period, the supplier shall advise MaineDOT and/or the Engineer that the system is ready for the Start-up Phase. Any major system malfunctions encountered during this testing period shall be corrected by the supplier, and the test restarted. During this period, MaineDOT and/or the Engineer may make modifications to the system timing parameters, but this will not cause restarting of the testing period. At the completion of the testing period, the system will be deemed ready for final acceptance testing as described in Acceptance Testing.

p) Manuals and Documentation Operating manuals shall be supplied for all equipment and components of the system. Each set of operating manuals shall provide all necessary instructions for day-to-day use of the system by the end user. The manuals shall contain, as a minimum, the following information:

- i. Table of Contents
- ii. System Overview (to include operation of all system features).
- iii. Complete step-by-step instructions for performing each available function with sample screens, sample reports, and examples.
- iv. Quick Start Guide with instructions for performing the basic and common functions.
- v. Updated manuals and system documentation must be provided as part of any system upgrade received by MaineDOT.

The cabinet shall additionally be provided with the following documentation:

- i. Operating and Maintenance manuals.
- ii. ATC Database Printout

q) System Maintenance Under this Item the Contactor, through their Vendor, shall provide operations and maintenance services of the ATC, SPM, CV system, and all system related field elements including communications and control devices for a 3-year period. This maintenance period shall begin once the project is accepted by MaineDOT. In addition to the requirements contained elsewhere within these specifications, the Contractor shall provide the following tasks:

- i. Provide software upgrades for the CV/SPM systems;
  - a. At any time that operating software updates are released by the manufacturer, whether routine enhancement updates, releases to fix software issues, or a combination of both, it shall be possible for personnel from MaineDOT to update the software in all its devices supplied as part of this project without any assistance or supervision from any other agency, firm, or persons. The device shall log which user installed the updates and provide a rollback feature to go back to the previous version in the event the update is not compatible with other system elements.
  - b. At any time that operating software updates are released by the manufacturer, they shall be made available to MaineDOT immediately upon release to the distributor by the manufacturer, including the release notes of the new firmware.

- c. Software updates by the manufacturer shall be made available to the MaineDOT for the operating life of the devices at no additional cost to MaineDOT, except as expressly identified in the Contract documents.
  - d. At any time that operating software updates are released by the manufacturer, whether routine enhancement updates, releases to fix software issues, or a combination of both, it shall be possible for personnel from MaineDOT to update the software on all of its cloud-based systems without any assistance or supervision from any other agency, firm, or persons. The system supplier shall provide phone based technical support to MaineDOT personnel installing software updates.
  - e. The cloud-based system software shall operate under the Windows™ operating system, current version available at the time of installation. In addition, during the support period, the system supplier shall provide updates to the CMS/CV/SPM software to allow continued operation with a new windows version when the current Windows™ version no longer receives support from Microsoft.
- ii. After system acceptance the manufacturer and supplier shall be responsible for all system operations and maintenance for a period of three years.
  - iii. Preserve the CMS/CV/SPM system to operate as designed or mitigate issues when anomalies occur.
  - iv. Signal performance measures shall be collected and retained based on a daily time schedule by MaineDOT.
  - v. Respond to alarms, faults and communication issues.
  - vi. Prior to system acceptance, the Contractor shall be responsible for all maintenance on the systems.
  - vii. The manufacturer and supplier shall warrant the system to be free of defects for a period of one year, except that some system elements shall have a warranty of greater than one year, as shown in these specifications.
  - viii. If a unit is found to be defective during this warranty period, it will be the responsibility of the manufacturer and/or representative to assume the cost of shipping the unit to and from the factory, supplying parts and making repairs at no cost to the agencies.
  - ix. During the warranty period, the vendor shall provide a unit of the same type to make the intersection operational per the design plans.
  - x. Each piece of equipment shall carry its own individual warranty from the equipment manufacturer and the supplier.
  - xi. Standard maintenance practices and standards compliance shall be adhered to as set forth in the contract documents.
  - xii. In the absence of a defining standard or code, all work shall be conducted using the highest standards of care and methodology normally associated with the specific activity.



The Contractor/Vendor shall conduct monitoring of the CMS/CV/SPM system operations throughout the length of the maintenance period. In addition to monitoring the Contractor/ Vendor shall implement changes to parameters associated with the CMS/CV/SPM system as approved by MaineDOT.

The Contractor shall staff and provide resources to ensure a maximum twelve (12) hour response time to address signal operational issues identified and communicated by MaineDOT throughout the life on the maintenance period.

The Contractor shall be required to keep records of dates when parameter changes are implemented. These records shall be submitted by the Contractor/ Vendor to MaineDOT. A written copy shall be transmitted to MaineDOT by the first of each month.

The system must come with a minimum five (5) year software maintenance agreement to become effective when the proposed system has been accepted, in writing, by MaineDOT.

Software updates shall be provided free of charge for five (5) years from date of system acceptance. Software corrections or required modifications for proper system operation per these specifications shall be furnished to MaineDOT at no additional cost during the warranty period.

Hardware equipment shall be warrantied for three (3) years, effective when the proposed system has been accepted in writing by MaineDOT.

Third party hardware and software licenses and warranties shall be passed to MaineDOT.

r) License Agreement The suppliers of the CV/SPM shall provide an unlimited software seat license to MaineDOT. If additional systems are installed and connected, any additional software licenses required shall be at the same cost as the remote licenses furnished for the initial project. Suppliers shall attach a copy of its standard Software License Agreement (SLA). The SLA, as negotiated, shall be made a part of the final equipment ordering contract. The licensing arrangement must address access to the system by agencies other than MaineDOT. The supplier shall carry out no work that will infringe on the licensing of third party hardware and software.

s) System Integration Testing Requirements In addition to testing requirements outlined for individual elements the below testing requirements are required.

Upon completion of work, tests shall be conducted to ensure that the system integration has been performed properly and all requirements described and required as part of this project have been met. This includes all hardware and all software installed as part of this project. All tests shall be conducted in accordance with the approved test procedures developed by the Contractor. The Contractor shall submit test procedures and forms/checklists for review and approval to the Resident and Design Engineers. As part of the system integration testing, the Contractor will be required to verify all system and intersection dynamic graphic displays against observed field conditions. This will require that a person be in the field while another

person is at central during this central to field verification of graphic displays and logging data to ensure that what the operator observes at central matches what is actually occurring in the field at each local intersection.

Verification confirms that a system meets all its specified requirements. Validation confirms that a system has achieved all of the operational needs identified in the Concept of Operations. The Contractor will be required to develop and submit a detailed system test plan. This test plan, when approved and executed, must demonstrate that the system achieves all of the operational needs identified in the Concept of Operations, all of the system requirements identified in the System Requirements document, and all of the requirements contained in the project Plans and Specifications. The successful execution of this test plan will therefore meet the requirements for system verification and validation.

The Contractor shall propose testing plans and submit the test plan(s) and procedures as detailed herein to the Resident and Design Engineers for approval prior to testing. Each of the test plans shall contain the following elements:

- i. Proposed date, time, and location of the testing
- ii. Names of the Contractor personnel who will be conducting the testing
- iii. Descriptive overview of the proposed test procedure
- iv. List of test equipment required to perform the testing
- v. Test cases and test logging forms which detail every step of the test procedure:

Test logging forms shall be presented in tabular format, with separate columns for each of the following:

- i. Test case description detailing the test step to be performed.
- ii. Expected result
- iii. Actual result
- iv. Pass/Fail
- v. Comments

The Contractor shall supply separate test logging forms at the time of testing for each test plan, and for each device location. The test logging forms shall show the device location, date, and the start and end times of the test.

At the end of each test logging form, there shall be signature and date locations for each of the following:

- i. Contractor personnel conducting the test
- ii. MaineDOT representative witness
- iii. Design Engineer witness

Signatures on the test logging form will signify only that the test was performed and witnessed, not that it passed or failed.

The detailed Test Plans shall be submitted to the Resident Engineer and Design Engineer

no later than thirty (30) days prior to the beginning of each test phase.

The Contractor shall have approved test plans prior to submitting a request to schedule the start of any test activities. The Contractor shall notify the Resident and Design Engineers no less than fourteen (14) days prior to the beginning of any equipment or systems testing.

Testing shall provide verification and documentation that all requirements included in the Contract Documents are met. The Test Plans shall be developed by the Contractor to provide a mechanism that ensures that all contract requirements have been tested fully and verified.

If any deviations or changes to the approved Test Plans arise, it shall be resubmitted by the Contractor for review and approval by the Engineer at least fourteen (14) calendar days prior to any planned test activity stage. No tests shall be conducted until the Resident Engineer, Design Engineers have approved the test plan.

A summary of all tests shall be produced at the completion of each testing phase of the project to ensure that all requirements defined by the system are satisfied.

MaineDOT reserves the right to examine and test or retest any or all materials furnished by the Contractor for the project to determine if they meet the requirements specified within the Contract Documents.

If the MaineDOT decides that any material used in the construction of this project is defective or otherwise unsuitable, and the workmanship does not conform to the requirements of this Contract, the Contractor shall replace such defective parts and material at no cost to the Project. The times and dates of the tests shall be approved by the Resident and Design Engineers. The Contractor shall conduct all tests in the presence of the Resident and Design Engineers. Testing shall take place only on weekdays, which are official working days, unless the Resident and Design Engineers allows the test to be conducted and/or continued on weekends and non-working days. The Contractor shall make a request in writing at least fourteen (14) days prior to the proposed testing, and schedule tests only if permission is granted by MaineDOT in writing.

The Contractor shall be responsible for the conduct and documentation of the results of these tests that will be countersigned by the Resident and Design Engineers at the end of each test. The signature of the Engineers implies only proof of presence. Test results shall be packaged and submitted to the Engineers within one week of test completion. No test phase shall begin until all prior test phases have been completed, and test results have been approved by the Engineers.

The Contractor shall utilize vendor supplied or any test specific software for testing, as needed, at no additional cost.

t) Acceptance Testing Upon completion of the 7-day testing period, MaineDOT and/or the Engineer shall evaluate system operations. It is expected that the complete system shall operate fully functional for a period of 30 consecutive days without malfunction. Minor

malfunctions of inoperability not the fault of the Contractor, as judged by MaineDOT and/or the Engineer, are not included in the 30-day period. If the system fails to operate as intended by this specification the malfunction shall be corrected by the Contractor at its cost and a new 30- day testing period shall begin. This process shall continue until a completely operable system is demonstrated for a consecutive 30-day period.

Acceptance testing must demonstrate to MaineDOT and/or the Engineer's reasonable satisfaction that the hardware and licensed software function in accordance with the specifications, requirements, functionalities, performance criteria or other benefits stated in documentation, proposals, and/or demonstrations given to MaineDOT.

718.14 Field Monitoring Unit 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.

For the intersection included in this project, communications from the cloud-based system to the on-street traffic signal controllers shall be made through the Field Monitoring Unit (FMU) as shown on the plans. The Contractor shall furnish and install all materials necessary for a complete and operational connection 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 CMS/CV/SPM system. All connections shall be encrypted VPN tunnels.

The Contractor shall coordinate all configuration settings with MaineDOT IT and the Engineer.

The FMU shall be Applied Information model AI-500-085-04.

The Contractor shall be responsible for determining which compatible cellular provider can provide the best network coverage to the shelf mount FMU for remote communications to the CMS and provide the proper SIM card on a per site basis.

The FMU central web based interface shall be a separate element from the CMS/CV/SPM.

The Contractor shall provide sufficient slack cable to the shelf mount FMU harness so the device can be rotated around without having to disconnect the harness.

The Contractor shall procure a high gain antenna for each project location in lieu of the standard FMU petri dish antenna.

a) Materials The materials for this work shall conform to the following requirements:

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 traffic cabinet.

b) Field Monitoring Unit The FMU shall conform to the following requirements:

The FMU shall function correctly between -29° and +165° degrees Fahrenheit.

The FMU shall be provided with appropriately rated connectors that allows the FMU to be exchanged by unplugging connectors, without tools.

The FMU shall monitor and log all Controller and cabinet faults and or alarms, and shall be wired directly to the cabinet.

The FMU shall contain two individually switchable 120VAC outlets controlled via the cloud-based management software. The following two devices shall be plugged into the outlets:

- i. Non-Invasive detection system
- ii. C-V2X

The FMU shall have an internal cellular modem running at 5G and shall incorporate and integrated GPS and cell modem.

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.

The FMU shall be powered via a standard 120V input power.

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.

The FMU shall be configured to allow for the remote display and control of the connected traffic signal controller via the FMU manufacturer cloud hosted web- based software. This feature shall not require the end user to create a separate VPN connection to the FMU.

The FMU shall be configured to provide access to view the detection system, including the video image of each approach, via the FMU web-based software. This feature shall not require the end user to create a separate VPN connection to the FMU.

The FMU shall perform a load test of the connected Battery Backup System (BBS) batteries on a scheduled or on demand basis (if applicable).

The FMU shall include web services built into the FMU manufacturer cloud hosted web-based software to allow the installation of 3<sup>rd</sup> party software programs and the software programmed hosted at no additional charge.

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.

The FMU shall incorporate an integrated GPS which will allow the FMU to geo-locate itself on the FMU management software map, without configuration.

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.

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.

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.

The FMU shall include Ethernet communications via an Ethernet Port with RJ45 connector.

The FMU shall include weatherproof high gain antennas.

FMU Software The FMU shall meet the following software requirements.

- c) Map Display FMU Management Software 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.

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.



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. The icons shall change to be able to clearly indicate if an intersection is offline. Clicking on the icon on the map shall expose a box with the current parameters of the intersection shown.

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. The map view shall have the ability to show Google traffic overlays on the map.

- d) Intersection Detail Display FMU Management Software It shall be possible to identify, 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:

The alarm status, with priority indicated, and a text description of the alarm (if an alarm is present for this device).

The time since the last communication with the device.

The following parameters (real time now values, minimum for the day values, maximum for the day values, and average for the day values)

- i. The AC mains voltage (value)
- ii. The battery back-up voltage (value)
- iii. The cabinet temperature (value)
- iv. The cabinet humidity (value)
- v. The presence of AC power (OK or Fail)
- vi. The flashing status of the intersection (OK or Flashing)
- vii. Stop Time status (OK or Stop Time Active)
- viii. The cabinet door status (Open or Closed)
- ix. The intersection fan status (Fan On or Fan off)

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:

- i. The AC mains voltage
- ii. The battery back-up voltage

- iii. The cabinet temperature
- iv. The cabinet humidity

e) Diagnostics and Log Display FMU Management Software 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. It shall be possible to filter the logs by Device; by Device Type and/or by Group as well as between dates.

It shall be possible to print these selected logs to a local printer or a PDF file.

It shall be possible to export these logs to Excel on the local computer for further analysis.

f) Alarms FMU Management Software The FMU management software shall have a comprehensive alarm generation capability

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.

Alarms shall be configurable to be of Low, High or Critical Priority.

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.

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.

g) Alerts FMU Management Software The FMU management software shall have comprehensive alerting capability, to enable the response personnel to be notified when an abnormal situation has occurred.

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.

The alert shall be configurable to optionally send via email and/or via SMS a message when an alarm clears.

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.

h) Hosting and Connectivity and Service FMU / FMU Management Software 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:

- i. Cellular Connectivity
- ii. No cellular overage charges
- iii. Extended warranty on the hardware for the period of the Connectivity and Service Agreement
- iv. Over-the-air software updates
- v. Over-the-air security updates
- vi. Remote Front Panel of the connected traffic signal controller
- vii. SPaT message broadcast to mobile device application
- viii. The FMU shall be configured for SPaT data.
- ix. The FMU shall be supplied with the unlimited video/data streaming service.
- x. The FMU shall be configured with Traffic Signal Controller remote front panel access.
- xi. The FMU shall be configured to supply streaming video from the detection system.
- xii. At the time of the shop drawing submittal, Contractor shall supply a detailed list of available FMU functions for the agency consideration
- xiii. Future Connected Vehicles Service

718.15 Emergency Vehicle Preemption System. The emergency vehicle preemption systems shall be retained or installed as shown in the plans.

The emergency vehicle preemption control systems shall consist of a data-encoded phase selector. Those units will serve to validate, identify, classify, and record the signal from the optical detectors located on support structures at the intersections. Upon receiving a valid signal from the detectors, the phase selectors shall generate a preempt call to the ATC initiating preemption operations as shown on the plans. Any new phase selectors shall have full ID and logging capabilities and be a rack-mounted plug-in four channel, dual priority devices. Programming the phase selectors shall be via a PC-based computer utilizing unit specific

software as well as the cloud-based CMS. One copy of new software shall be supplied and licensed to MaineDOT. A hard copy of final programming data shall be left in the control cabinets. The Contractor shall supply a complete set of interface cables for phase selector to laptop connection in each controller cabinet. The phase selectors shall be connected to the Ethernet Switch and/or the FMU, such that the phase selector event/system logs and unit/device configuration can be remotely accessed through the secure communications system. The Contractor shall supply and install any required converters, cables, device servers or other devices, to interface the phase selector to the Ethernet switch in each cabinet. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to satisfy the requirements as defined in these specifications.

Any new optical detectors shall be single input, single output units used to control one approach. All traffic signal installations shall be supplied with a single optical detector for each approach to the intersection unless otherwise noted in the major items list or as shown on the plans.

The Contractor shall install the quantity of confirmation strobes at each traffic signal location as shown in the plans or as directed by the Engineer. The confirmation strobe shall serve to validate to the driver of the emergency vehicle that the traffic signal has recognized the preemption call and will initiate the proper preemption sequence. The confirmation strobe shall be illuminated whenever any emergency vehicle preemption green is on. The confirmation strobe shall be a red lens Whelan model 1500 or approved equivalent.

The Contractor shall be responsible for the proper programming of the phase selector, orientation of the optical detectors, and all other work necessary to provide a complete and operating emergency vehicle preemption system. The Contractor may be required to field adjust the location of the optical detectors in the presence of the Engineer and the municipal Fire Department to properly detect preemption calls from approaching vehicles.

The emergency vehicle preemption installed under this project shall be functionally compatible with the proposed traffic signal control system and allow CMS based remote access to the phase selectors via FMU and/or Ethernet switch by secure VPN connection. In addition, the system shall be configured such that preemption or priority control can be initiated through the 4GLTE – 5G Roadside Unit (RSU) by means of an approaching authorized vehicle with an On-Board Unit (OBU).

## 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

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.”**

## 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:  $PF = [70 + (\text{Quality Level} * 0.33)] * 0.01$ ”

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.**

<b>Item 403.102</b>	<b>Hot Mix Asphalt – Special Areas</b>
<b>Item 403.207</b>	<b>Hot Mix Asphalt - 19 mm</b>
<b>Item 403.2071</b>	<b>Hot Mix Asphalt - 19 mm (Polymer Modified)</b>
<b>Item 403.2072</b>	<b>Hot Mix Asphalt - 19 mm (Asphalt Rich Base)</b>
<b>Item 403.208</b>	<b>Hot Mix Asphalt - 12.5 mm</b>
<b>Item 403.2081</b>	<b>Hot Mix Asphalt - 12.5 mm (Polymer Modified)</b>
<b>Item 403.2084</b>	<b>Hot Mix Asphalt - 12.5 mm (Highly Modified HiMAP)</b>
<b>Item 403.209</b>	<b>Hot Mix Asphalt - 9.5 mm (sidewalks, drives, &amp; incidentals)</b>
<b>Item 403.210</b>	<b>Hot Mix Asphalt - 9.5 mm</b>
<b>Item 403.2101</b>	<b>Hot Mix Asphalt - 9.5 mm (Polymer Modified)</b>
<b>Item 403.2104</b>	<b>Hot Mix Asphalt - 9.5 mm (Thin Lift Surface Treatment)</b>
<b>Item 403.21041</b>	<b>Hot Mix Asphalt - 9.5 mm (Polymer Modified Thin Lift Surface Treatment)</b>
<b>Item 403.211</b>	<b>Hot Mix Asphalt – Shim</b>
<b>Item 403.2111</b>	<b>Hot Mix Asphalt – Shim (Polymer Modified)</b>
<b>Item 403.212</b>	<b>Hot Mix Asphalt - 4.75 mm (Shim)</b>

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

110.3.9 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:**
  - o Below a plane parallel with and 12 inches below the bottom of the drainage or minor structure or
  - o 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. <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**

502.09 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: “**

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 set per proposed grading before production. One set every 100 yd <sup>3</sup> (Min. 1 set per month)
Organic Impurities	AASHTO T-21	Stockpile	<b>Once per fine aggregate per year **</b>
% 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 @ 7days	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.**

502.18, 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.”**

## SECTION 506 SHOP APPLIED PROTECTIVE COATING – STEEL

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 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  $\frac{1}{4}$  inch. The vertical centerline shall not be out of plumb by more than  $\frac{1}{4}$  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:

	<b><u>Pay Item</u></b>	<b><u>Pay Unit</u></b>
526.301	Portable Concrete Barrier, Type I	Lump Sum
526.304	Portable Concrete Barrier, Anchored Type I	Lump Sum
526.312	Permanent Concrete Barrier Type II	Lump Sum
526.321	Permanent Concrete Barrier Type IIIa	Lump Sum
526.323	Texas Classic Rail	Lump Sum
526.331	Permanent Concrete Barrier Type IIIb	Lump Sum
526.34	Permanent Concrete Transition Barrier	Each
526.502	Precast Concrete Median Barrier	Lump Sum"

## 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

535.22 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 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 cellulosic 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 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 Passing Square Mesh Sieves			
Grading	A	AA	S	LATEX
Aggregate Size	1 inch	$\frac{3}{4}$ inch	$1\frac{1}{2}$ inch	$\frac{1}{2}$ inch
2 inch			100	
$1\frac{1}{2}$ inch	100		95-100	
1 inch	95-100	100	-	
$\frac{3}{4}$ inch	-	90-100	35-70	100
$\frac{1}{2}$ inch	25-60	-	-	90-100
$\frac{3}{8}$ inch	-	20-55	10-30	40-70
No. 4	0-10	0-10	0-5	0-15
No. 8	0-5	0-5	-	0-5
No. 16	-	-	-	-
No. 50	-	-	-	-
No. 200	0 - 1.5	0 - 1.5	0 - 1.5	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.

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 Passing Square Mesh Sieves
$\frac{3}{8}$ 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  $\frac{1}{2}$  inch 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
$\frac{1}{2}$ inch	45-70	35-75
$\frac{3}{4}$ 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 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 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 (compared to aim)	Percent passing 0.075 mm sieve (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.

## 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 AWP A 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 AWP A approved species, or spruce, cedar, tamarack or other AWP A 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 AWP A 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 AWP A 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 AWP A 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 713.02 High Strength Bolts

Revise the second sentence of this subsection so that it reads “**Nuts shall meet the requirement of ASTM A563**”. Revise the third sentence of this subsection so that it reads “**Circular and beveled washers shall conform to the requirement of ASTM F436**”.

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

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.

APPENDIX A TO DIVISION 100

SECTION 1 - BIDDING PROVISIONS

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

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

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

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

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

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

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

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

CERTIFICATION REGARDING NONCOLLUSION Under penalty of perjury as provided by federal law (28 U.S.C. §1746), the Bidder hereby certifies, to the best of its knowledge and belief, that:

the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with the Contract.

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

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

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

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

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## SECTION 2 - FEDERAL EEO AND CIVIL RIGHTS REQUIREMENTS

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

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

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

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

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be

based upon its efforts to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

Ensure and maintain a working environment free of harassment, intimidations, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all forepersons, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and to maintain a record of the organization's responses.

Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

Provide immediate written notification to the Department's Civil Rights Office when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Design-Builder's efforts to meet its obligations.

Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under B above.

Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligation; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring,

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

Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractor's and Subcontractors with whom the Contractor does or anticipates doing business.

Direct its recruitment efforts, both orally and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above describing the openings, screenings, procedures, and test to be used in the selection process.

Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth, both on the site and in other areas of a Contractor's workforce.

Validate all tests and other selection requirements.

Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractor's and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.

Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

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

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

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

§60-4.2 Solicitations

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

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

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

<u>Goals for female participation in each trade</u>	6.9%
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Goals for minority participation for each trade

Maine

001 Bangor, ME	0.8%
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Non-SMSA Counties (Aroostook, Hancock, Penobscot, Piscataquis, Waldo, Washington)

002 Portland-Lewiston, ME

SMSA Counties: 4243 Lewiston-Auburn, ME (Androscoggin)	0.5%
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6403 Portland, ME (Cumberland, Sagadahoc)	0.6%
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Non-SMSA Counties: (Franklin, Kennebec, Knox, Lincoln, Oxford, Somerset, York)	0.5%
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These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.

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

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

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

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

1. As used in these specifications:

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



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

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

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

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

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

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

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

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

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

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

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D. Section '**D Disadvantaged Business Enterprise (DBE) Requirements**' is removed in its entirety. The DBE material is in:

**Section 105.10 EQUAL OPPORTUNITY AND CIVIL RIGHTS.**

**SECTION 3 - OTHER FEDERAL REQUIREMENTS**

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

A. Buy America

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

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

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

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

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

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

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

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

#### B. Materials

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

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

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

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

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



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

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

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

The primary purpose of the policy is to have competition in selection of materials and allow for development of new materials and products. The policy further permits materials and products that are judged equal may be bid under generic specifications. If only patented or proprietary products are acceptable, they shall be bid as alternatives with all, or at least a reasonable number of, acceptable materials or products listed; and the Division Administrator may approve a single source if it can be found that its utilization is in the public interest.

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

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

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

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

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



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

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

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

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

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

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

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

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

#### C. Standard FHWA Contract Provisions - FHWA 1273

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

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**Cargo Preference Act : Contractor and Subcontractor Clauses.** “Use of United States-flag vessels: The contractor 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.”(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 (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.”(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.”(Reorganization Plans No. 21 of 1950 (64 Stat. 1273) and No. 7 of 1961 (75 Stat. 840) as amended by Pub. L. 91-469 (84 Stat. 1036) and Department of Commerce Organization Order 10-8 (38 FR 19707, July 23, 1973)) [42 FR 57126, Nov. 1, 1977]

The Cargo Preference Act requirements apply to materials or equipment that are acquired for a specific Federal-aid highway project. In general, the requirements are not applicable to goods or materials that come into inventories independent of an FHWA funded-contract. For example, the requirements would not apply to shipments of Portland cement, asphalt cement, or aggregates, as industry suppliers and contractors use these materials to replenish existing inventories. In general, most of the materials used for highway construction originate from existing inventories and are not acquired solely for a specific Federal-aid project. However, if materials or equipment are acquired solely for a Federal-aid project, then the Cargo Preference Act requirements apply.”

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Start of FHWA 1273 REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION CONTRACTS (As revised through October 23, 2023)

## 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/WHDL/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.

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## **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 effecting 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**  
**Bruce Van Note, Commissioner**  
**(Name of Recipient)**

Dated: 8/30/24

## 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: 27786.00

Date Submitted: 1/31/2025

Town: Edgecomb

CPD Team Leader: Danielle Tetreau

ENV Field Contact: Jamie Bray

NEPA Complete: Programmatic Categorical Exclusion (CE) 23 CFR 771.117.c.27 issued on 1/29/2025

### Section 106

Review Complete: PA-B Approved 1/10/2025

Section 106 Resources: none

### Section 4(f) and 6(f)

#### Section 4(f)

Review Complete - No use

#### Section 6(f)

Review Complete - No takes

### Maine Department of Inland Fisheries and Wildlife

Not Applicable

Timing Window: Not Applicable

### Section 7

**Species of Concern: northern long-eared bat:** Informal Consultation - **not likely to adversely affect**  
Tri-colored bat: proposed for listing, not likely to adversely affect.

*\*See SP 105 for Environmental Requirements.*

### Essential Fish Habitat

No Effect - no in-water work proposed

**Species of Concern: Atlantic salmon**

### Maine Department of Agriculture, Conservation, and Forestry

Public Lands, Submerged Land Lease: Not Applicable

Maine Land Use Planning Commission: Not Applicable

### Maine Department of Environmental Protection

Not Applicable – no resource impacts

### Army Corps of Engineers: Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

Not Applicable - no resource impacts

### Stormwater Review

Review Complete

### Hazardous Material Review

Review complete – no concerns



### Special Provisions Required

Standard Specification 656-Erosion Control Plan

N/A ☐

Applicable ☒

Special Provision 105-Timing of Work Restriction

N/A ☐

Applicable ☒

Special Provision 203-Hazardous Waste

N/A ☒

Applicable ☐

Special Provision 656-Minor Soil Disturbance

N/A ☒

Applicable ☐

Special Provision 203-Dredge Spec

N/A ☒

Applicable ☐

General Note for Hazardous Waste

N/A ☒

Applicable ☐