

Updated 09/28/10

FEDERAL PROJECT

BIDDING INSTRUCTIONS

FOR ALL PROJECTS:

1. Use pen and ink to complete all paper Bids.
2. As a minimum, the following must be received prior to the time of Bid opening:

For a Paper Bid:

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

For an Electronic Bid:

- a) a completed Bid using Expedite® software and submitted via the Bid Express™ webbased service, b) a Bid Guaranty (as described below) or a faxed copy of a Bid Bond (with original to be delivered within 72 hours), and c) any other certifications or Bid requirements listed in the Bid Documents as due by Bid opening.
3. Include prices for all items in the Schedule of Items.
4. Include a Bid Guaranty. Acceptable forms are:
 - a) a properly completed and signed Bid Bond on the Department's prescribed form (or on a form that does not contain any significant variations from the Department's form as determined by the Department) for 5% of the Bid Amount or
 - b) an Official Bank Check, Cashier's Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors.
5. If a paper Bid is to be sent, Federal Express overnight delivery is suggested as the package is delivered directly to the DOT Headquarters Building located at 16 Child Street in Augusta.
6. Other means, such as U.S. Postal Service's Express Mail has proven not to be reliable.

IN ADDITION, FOR FEDERAL AID PROJECTS:

7. Complete the DBE Proposed Utilization form in the proper amounts, and submit with your bid on bid opening day. If you are submitting your bid electronically, you must FAX your DBE Utilization Form to (207) 624-3431.

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

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

NOTICE

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

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

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

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

NOTICE

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

Bid Enclosed - Do Not Open

PIN:

Town:

Date of Bid Opening:

Name of Contractor with mailing address and telephone number:

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

Double Envelope: Bid Enclosed

PIN:

Town:

Date of Bid Opening:

Name of Contractor:

This should not be much of a change for those of you who use Federal Express or similar services.

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

Bid Enclosed: Do Not Open

PIN:

Town:

Name of Contractor:

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
Bid Guaranty-Bid Bond Form

KNOW ALL MEN BY THESE PRESENTS THAT _____

_____, of the City/Town of _____ and State of _____

as Principal, and _____ as Surety, a

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

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

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

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

The condition of this obligation is that the Principal has submitted to the Maine Department of

Transportation, hereafter Department, a certain bid, attached hereto and incorporated as a

part herein, to enter into a written contract for the construction of _____

_____ and if the Department shall accept said bid

and the Principal shall execute and deliver a contract in the form attached hereto (properly

completed in accordance with said bid) and shall furnish bonds for this faithful performance of

said contract, and for the payment of all persons performing labor or furnishing material in

connection therewith, and shall in all other respects perform the agreement created by the

acceptance of said bid, then this obligation shall be null and void; otherwise it shall remain in full

force, and effect.

Signed and sealed this _____ day of _____ 20_____

WITNESS:

WITNESS

PRINCIPAL:

By _____

By: _____

By: _____

SURETY:

By _____

By: _____

Name of Local Agency: _____

NOTICE

Bidders:

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

NOTICE

Disadvantaged Business Enterprise Proposed Utilization

All Bidders must submit the Disadvantaged Business Enterprise Proposed Utilization form with their bid.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form contains information that is required by U.S. DOT.

The Maine Department of Transportation's Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form must be used.

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

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

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

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

The Contractor Shall:

1. Submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan with your bid on the Bid day.
2. Extend equal opportunity to MDOT certified DBE firms (as listed in MDOT's DBE Directory of Certified Businesses) in the selection and utilization of Subcontractors and Suppliers.

SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

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

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

In the columns, name each subcontractor, DBE and non-DBE firm to be used, provide the Unit/Item cost of the work/product to be provided by the subcontractor, give a brief description and the dollar value of the work.

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 has established a DBE Program for disadvantaged business participation in the federal-aid construction program; MaineDOT contracts covered by the program include consulting, construction, supplies, manufacturing, and service contracts.

For FFY 2010 (October 1, 2009 through September 30, 2010), MaineDOT has established a DBE participation goal of 5.9% to be achieved through race/gender neutral means.

Interested parties may view MaineDOT's DBE goal setting methodology posted on this website. If you have questions regarding this goal you may contact the Maine Department of Transportation, Civil Rights Office by telephone at (207) 624-3042 or by e-mail at: theresa.savoy@maine.gov.

This DBE goal, at the request of Federal Highway Administration, has been recalculated and was resubmitted for approval on May 6, 2010. This goal remains in effect through September 30, 2012 unless otherwise determined by Federal Highway Administration.

MaineDOT CONTRACTOR'S DBE/SUBCONTRACTOR UTILIZATION FORM

All Bidders must furnish this form with their bid on Bid Opening day

Contractor: _____ Telephone: _____ Ext. _____

Contact Person: _____ Fax: _____

E-mail: _____

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

FEDERAL PROJECT PIN # _____ PROJECT LOCATION: _____

TOTAL ANTICIPATED DBE _____ % PARTICIPATION FOR THIS SUBMISSION

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

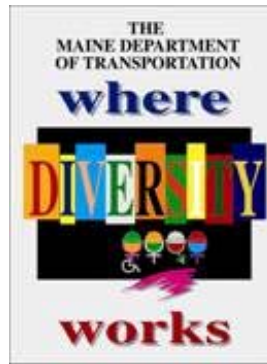
NOTE: THIS INFORMATION IS USED TO TRACK AND REPORT ANTICIPATED DBE PARTICIPATION IN ALL FEDERALLY FUNDED MAINE DOT CONTRACTS. THE ANTICIPATED DBE AMOUNT IS VOLUNTARY AND WILL NOT BECOME A PART OF THE CONTRACTUAL TERMS.

Equal Opportunity Use:

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

cc: Contracts Other _____

For a complete list of certified firms and company designation (WBE/DBE) go to <http://www.maine.gov/mdot>



**Maine Department of Transportation Civil
Rights Office**

**Directory of Certified Disadvantaged Business
Enterprises**

Listing can be found at:

**[www.maine.gov/mdot/disadvantagedbusiness-
enterprises/dbe-home.php](http://www.maine.gov/mdot/disadvantagedbusiness-enterprises/dbe-home.php)**

**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 listings.*

September 14, 2007

Vendor Registration

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

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

**STATE OF MAINE DEPARTMENT OF TRANSPORTATION
NOTICE TO CONTRACTORS**

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper "Bids for Traffic Signal Upgrades in the city/town of Waterville - Winslow" will be received from contractors at the Reception Desk, Maine DOT Building, Capitol Street, Augusta, Maine, until 11:00 o'clock A.M. (prevailing time) on November 3, 2010 and at that time and place publicly opened and read. Bids will be accepted from all bidders. The lowest responsive bidder must have completed, or successfully complete, a (Traffic Signals and/or Lighting prequalification), or project specific prequalification to be considered for the award of this contract. We now accept electronic bids for those bid packages posted on the bidx.com website. Electronic bids do not have to be accompanied by paper bids. Please note: the Department will accept a facsimile of the bid bond; however, the original bid bond must then be received at the MDOT Contract Section within 72 hours of the bid opening. Until further notice, dual bids (one paper, one electronic) will be accepted, with the paper copy taking precedence.

Description: Maine Federal Aid Project No. STP-1728(800)X, PIN. 17288.00

Location: In Kennebec County, project is located on Kennedy Memorial Drive with Main, Elm, Silver and Spring St's.

Outline of Work: Traffic Signal Modification interconnect, coordination and other incidental work.

The basis of award will be Section 0001

For general information regarding Bidding and Contracting procedures, contact Scott Bickford at (207)624-3410. Our webpage at http://www.maine.gov/mdot/contractor-consultant-information/contractor_cons.php contains a copy of the schedule of items, Plan Holders List, written portions of bid amendments (not drawings), and bid results. For Project-specific information fax all questions to **Project Manager Jim Mansir** at (207)624-3431. Questions received after 12:00 noon of Monday prior to bid date will not be answered. Bidders shall not contact any other Departmental staff for clarification of Contract provisions, and the Department will not be responsible for any interpretations so obtained. Hearing impaired persons may call the Telecommunication Device for the Deaf at 888-516-9364.

Plans, specifications and bid forms may be seen at the Maine DOT Building in Augusta, Maine. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Full size plans \$54.00 (\$60.00 by mail). Half size plans \$27.00 (\$32.00 by mail), Bid Book \$10 (\$13 by mail), Single Sheets \$2, payment in advance, all non-refundable.

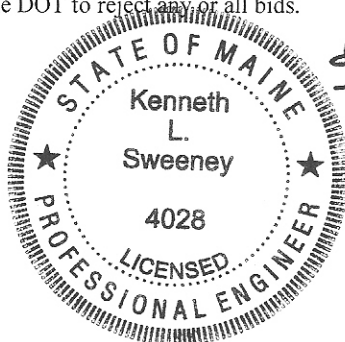
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of \$65,000.00 payable to Treasurer, State of Maine as a Bid guarantee. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each in the amount of 100 percent of the Contract price, will be required of the successful Bidder.

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

All work shall be governed by "State of Maine, Department of Transportation, Standard Specifications, Revision of December 2002", price \$10 [\$13 by mail], and Standard Details, Revision of December 2002, price \$20 [\$25 by mail]. Standard Detail updates can be found at http://www.maine.gov/mdot/contractor-consultant-information/contractor_cons.php

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

Augusta, Maine
October 13, 2010



Kenneth L. Sweeney
KENNETH L. SWEENEY P.E.
CHIEF ENGINEER

NOTICE

All bids for Federal Projects opened after December 1, 2008 **MUST** be accompanied by the DBE Proposed Utilization form. If you are submitting an electronic bid, the DBE Utilization Form may be faxed to 207-624-3431.

SPECIAL PROVISION 102.7.3
ACKNOWLEDGMENT OF BID AMENDMENTS

PIN. 17288.00

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

Amendment Number	Date

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

CONTRACTOR

_____ Date

_____ Signature of authorized representative

_____ (Name and Title Printed)

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 017288.00

PROJECT(S): STP-1728(800)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
SECTION 0001 PROJECT ITEMS						
0010	201.23 REMOVING SINGLE TREE TOP ONLY	1.000 EA				
0020	626.11 PRECAST CONCRETE JUNCTION BOX	14.000 EA				
0030	626.111 PRECAST CONCRETE JUNCTION BOX 36 INCH	1.000 EA				
0040	626.22 NON-METALLIC CONDUIT	3250.000 LF				
0050	626.31 18 INCH FOUNDATION	37.000 EA				
0060	626.33 30 INCH FOUNDATION	1.000 EA				
0070	626.331 36 INCH FOUNDATION	3.000 EA				
0080	626.35 CONTROLLER CABINET FOUNDATION	18.000 EA				
0090	626.36 REMOVE OR MODIFY CONCRETE FOUNDATION	6.000 EA				
0100	627.18 12 " SOLID WHITE PAVEMENT MARKING	50.000 LF				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 017288.00

PROJECT(S): STP-1728(800)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0110	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	1317.000 SF				
0120	643.71 TRAFFIC SIGNAL MODIFICATION BRIDGE ST & BAY ST & CLINTON AVE & BENTON AVE	LUMP	LUMP			
0130	643.71 TRAFFIC SIGNAL MODIFICATION COLLEGE AVE & HAZELWOOD AVE	LUMP	LUMP			
0140	643.71 TRAFFIC SIGNAL MODIFICATION ELM ST AND SILVER ST	LUMP	LUMP			
0150	643.71 TRAFFIC SIGNAL MODIFICATION ELM ST AND WESTERN AVE	LUMP	LUMP			
0160	643.71 TRAFFIC SIGNAL MODIFICATION ELM ST, SPRING ST & PERCIVAL CT	LUMP	LUMP			
0170	643.71 TRAFFIC SIGNAL MODIFICATION ELM ST, SPRING ST, & PERCIVAL CT	LUMP	LUMP			
0180	643.71 TRAFFIC SIGNAL MODIFICATION ELMS ST, PARK ST & APPLETON ST	LUMP	LUMP			
0190	643.71 TRAFFIC SIGNAL MODIFICATION KMD & 1ST RANGEWAY DR	LUMP	LUMP			
0200	643.71 TRAFFIC SIGNAL MODIFICATION KMD & CMD & SILVER STREET	LUMP	LUMP			

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 017288.00

PROJECT(S): STP-1728(800)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0210	643.71 TRAFFIC SIGNAL MODIFICATION KMD & COOL ST & COLLETTE ST	LUMP	LUMP			
0220	643.71 TRAFFIC SIGNAL MODIFICATION KMD & I 95 NB RAMPS	LUMP	LUMP			
0230	643.71 TRAFFIC SIGNAL MODIFICATION KMD & I 95 SB RAMPS	LUMP	LUMP			
0240	643.71 TRAFFIC SIGNAL MODIFICATION KMD & JFK DR	LUMP	LUMP			
0250	643.71 TRAFFIC SIGNAL MODIFICATION KMD & SHAW'S DRIVEWAY	LUMP	LUMP			
0260	643.71 TRAFFIC SIGNAL MODIFICATION KMD & W. RIVER RD	LUMP	LUMP			
0270	643.71 TRAFFIC SIGNAL MODIFICATION KMD & WASHINGTON ST	LUMP	LUMP			
0280	643.71 TRAFFIC SIGNAL MODIFICATION KMD AND FIRST PARK DR	LUMP	LUMP			
0290	643.71 TRAFFIC SIGNAL MODIFICATION MAIN ST & ARMORY ST.	LUMP	LUMP			
0300	643.71 TRAFFIC SIGNAL MODIFICATION MAIN ST & I 95 SB RAMPS	LUMP	LUMP			
0310	643.71 TRAFFIC SIGNAL MODIFICATION MAIN ST & I-95 NB RAMPS	LUMP	LUMP			

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 017288.00

PROJECT(S): STP-1728(800)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0320	643.71 TRAFFIC SIGNAL MODIFICATION MAIN ST & OAK ST & EUSTIS PARKWAY	LUMP	LUMP			
0330	643.71 TRAFFIC SIGNAL MODIFICATION MAIN ST & TEMPLE & W. CONCOURSE	LUMP	LUMP			
0340	643.71 TRAFFIC SIGNAL MODIFICATION MAIN ST & WATERVILLE COMMONS DR.	LUMP	LUMP			
0350	643.71 TRAFFIC SIGNAL MODIFICATION SPRING ST & MAIN ST & WATER ST & BRIDGE S	LUMP	LUMP			
0360	643.71 TRAFFIC SIGNAL MODIFICATION SPRING ST, SILVER ST & E CONCOURSE	LUMP	LUMP			
0370	643.81 TRAFFIC SIGNAL CONTROL SYSTEM	LUMP	LUMP			
0380	643.83 VIDEO DETECTION SYSTEM ELM ST & PARK ST & APPLETON ST	LUMP	LUMP			
0390	643.83 VIDEO DETECTION SYSTEM ELM ST & SILVER ST	LUMP	LUMP			
0400	643.83 VIDEO DETECTION SYSTEM ELM ST & SPRING ST	LUMP	LUMP			
0410	643.83 VIDEO DETECTION SYSTEM ELM ST & WESTERN AVE	LUMP	LUMP			

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 017288.00

PROJECT(S): STP-1728(800)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0420	643.83 VIDEO DETECTION SYSTEM KMD & 1ST RANGEWAY DR.	LUMP	LUMP			
0430	643.83 VIDEO DETECTION SYSTEM KMD & I 95 NB RAMPS	LUMP	LUMP			
0440	643.83 VIDEO DETECTION SYSTEM KMD & I 95 SB RAMPS	LUMP	LUMP			
0450	643.83 VIDEO DETECTION SYSTEM KMD & JFK DR.	LUMP	LUMP			
0460	643.83 VIDEO DETECTION SYSTEM KMD & SHAW'S DRIVEWAY	LUMP	LUMP			
0470	643.83 VIDEO DETECTION SYSTEM KMD & W. RIVER RD	LUMP	LUMP			
0480	643.83 VIDEO DETECTION SYSTEM KMD & WASHINGTON ST	LUMP	LUMP			
0490	643.83 VIDEO DETECTION SYSTEM MAIN ST & ARMORY ST	LUMP	LUMP			
0500	643.83 VIDEO DETECTION SYSTEM MAIN ST & ELMS T & COLLEGE AVE & RITE AI	LUMP	LUMP			
0510	643.83 VIDEO DETECTION SYSTEM MAIN ST & I 95 NB RAMPS	LUMP	LUMP			
0520	643.83 VIDEO DETECTION SYSTEM MAIN ST & I 95 SB RAMPS	LUMP	LUMP			

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 017288.00

PROJECT(S): STP-1728(800)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT		
			DOLLARS	CTS	DOLLARS	CTS	
0530	643.83 VIDEO DETECTION SYSTEM MAIN ST & OAK ST & EUSTIS PARKWAY	LUMP	LUMP				
0540	643.83 VIDEO DETECTION SYSTEM MAIN ST & TEMPLE ST & W CONCOURSE	LUMP	LUMP				
0550	643.83 VIDEO DETECTION SYSTEM MAIN ST & WATERVILLE COMMONS	LUMP	LUMP				
0560	643.83 VIDEO DETECTION SYSTEM SPRING ST & MAIN ST & WATER ST & BRIDGE ST	LUMP	LUMP				
0570	643.86 TRAFFIC SIGNAL LOOP DETECTORS	EA	10.000				
0580	643.90 INTERCONNECT WIRE BETWEEN	LUMP	LUMP				
0590	643.92 PEDESTAL POLE	EA	35.000				
0600	643.94 DUAL PURPOSE POLE	EA	1.000				
0610	652.31 TYPE I BARRICADE	EA	15.000				
0620	652.33 DRUM	EA	60.000				
0630	652.34 CONE	EA	75.000				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 017288.00

PROJECT(S): STP-1728(800)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0640	652.35 CONSTRUCTION SIGNS	1000.000 SF				
0650	652.361 MAINTENANCE OF TRAFFIC CONTROL DEVICES	LUMP	LUMP			
0660	652.38 FLAGGER	432.000 HR				
0670	652.381 TRAFFIC OFFICER	836.000 HR				
0680	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP	LUMP			
0690	659.10 MOBILIZATION	LUMP	LUMP			
SECTION 0001 TOTAL						.

SECTION 0002 SECTION 2

0810	626.21 METALLIC CONDUIT	30.000 LF				
0820	626.22 NON-METALLIC CONDUIT	400.000 LF				
0830	626.331 36 INCH FOUNDATION	4.000 EA				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 017288.00

PROJECT(S): STP-1728(800)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0840	626.35 CONTROLLER CABINET FOUNDATION	1.000 EA				
0850	627.18 12 " SOLID WHITE PAVEMENT MARKING	90.000 LF				
0860	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	44.000 SF				
0870	643.80 TRAFFIC SIGNALS AT KMD W/ AIRPORT RD.	LUMP	LUMP			
0880	643.91 MAST ARM POLE	4.000 EA				
SECTION 0002 TOTAL						.

SECTION 0003 SECTION 3

0890	626.21 METALLIC CONDUIT	30.000 LF				
0900	626.22 NON-METALLIC CONDUIT	50.000 LF				
0910	626.331 36 INCH FOUNDATION	4.000 EA				
0920	626.35 CONTROLLER CABINET FOUNDATION	1.000 EA				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 017288.00

PROJECT(S): STP-1728(800)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0930	627.18 12 " SOLID WHITE PAVEMENT MARKING	90.000 LF				
0940	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	44.000 SF				
0950	643.80 TRAFFIC SIGNALS AT KMD & AIRPORT RD.	LUMP	LUMP			
0960	643.93 STRAIN POLE	4.000 EA				
SECTION 0003 TOTAL						.

SECTION 0004 SECTION 4

0710	626.21 METALLIC CONDUIT	10.000 LF				
0720	626.22 NON-METALLIC CONDUIT	225.000 LF				
0730	626.31 18 INCH FOUNDATION	4.000 EA				
0740	626.331 36 INCH FOUNDATION	1.000 EA				
0750	626.35 CONTROLLER CABINET FOUNDATION	1.000 EA				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 017288.00

PROJECT(S): STP-1728(800)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0760	627.18 12 " SOLID WHITE PAVEMENT MARKING	66.000 LF				
0770	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	87.000 SF				
0780	643.80 TRAFFIC SIGNALS AT FRONT ST. W/ TEMPLE ST.	LUMP	LUMP			
0790	643.91 MAST ARM POLE	1.000 EA				
0800	643.92 PEDESTAL POLE	4.000 EA				
SECTION 0004 TOTAL						.
SECTION 0005 SECTION 5						
0700	643.715 EMERGENCY VEHICLE PREEMPTION EMITTERS	12.000 EA				
SECTION 0005 TOTAL						
TOTAL BID ALL SECTIONS						

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

_____ with its principal place of business located at _____

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

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. **17288.00**, for **Traffic Signal Modifications and Upgrades** in the city/town of **Waterville - Winslow**, County of **Kennebec**, 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 **October 14, 2011**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002 and related Special Provisions.

C. Price.

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

Section 0001 \$ _____

Section 0002 \$ _____

Section 0003 \$ _____

Section 0004 \$ _____

Section 0005 \$ _____

Performance Bond and Payment Bond each being 100% of the amount awarded under this Contract (see award amount in Section G below).

D. Contract.

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

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

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

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **PIN 17288.00 – Traffic Signal Modifications and Upgrades - in the city/town of Waterville - Winslow**, State of Maine, on which bids will be received until the time specified in the “Notice to Contractors” do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached “Schedule of Items”.

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

As Offeror also agrees:

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

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

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

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor’s Disadvantaged Business Enterprise Utilization Plan 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 for (see checked boxes):

- Section 0001
- Section 0002
- Section 0003
- Section 0004
- Section 0005

Contract Amount: _____

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

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: David A. Cole, Commissioner

Witness

CONTRACT AGREEMENT, OFFER & AWARD

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

_____ with its principal place of business located at _____

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

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. **17288.00**, for **Traffic Signal Modifications and Upgrades** in the city/town of **Waterville - Winslow**, County of **Kennebec**, 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 **October 14, 2011**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002 and related Special Provisions.

C. Price.

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

Section 0001 \$ _____

Section 0002 \$ _____

Section 0003 \$ _____

Section 0004 \$ _____

Section 0005 \$ _____

Performance Bond and Payment Bond each being 100% of the amount awarded under this Contract (see award amount in Section G below).

D. Contract.

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

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

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

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **PIN 17288.00 – Traffic Signal Modifications and Upgrades - in the city/town of Waterville - Winslow**, State of Maine, on which bids will be received until the time specified in the “Notice to Contractors” do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached “Schedule of Items”.

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

As Offeror also agrees:

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

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

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

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor’s Disadvantaged Business Enterprise Utilization Plan 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 for (see checked boxes):

Section 0001

Section 0002

Section 0003

Section 0004

Section 0005

Contract Amount: _____

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

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: David A. Cole, Commissioner

Witness

CONTRACT AGREEMENT, OFFER & AWARD

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

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

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. 1224.00, for the Hot Mix Asphalt Overlay in the town/city of 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, Revision of December 2002 and related Special Provisions.

C. Price.

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

D. Contract.

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

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

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

PIN 1234.00 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, Revision of December 2002, and as addressed in the contract documents.

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

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

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan 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
(Sign Here)

Date (Signature of Legally Authorized Representative of the Contractor)

(Witness Sign Here)

Witness (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: David A. Cole, 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:

SIGNATURES:

CONTRACTOR:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY:

Signature

.....

Print Name Legibly

Print Name Legibly

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

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

ADDRESS

TELEPHONE.....

.....

BOND # _____

CONTRACT PAYMENT BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____
_____ **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

.....

General Decision Number: ME100009 09/03/2010 ME9

Superseded General Decision Number: ME20080009

State: Maine

Construction Type: Highway

Counties: Aroostook, Franklin, Hancock, Kennebec, Knox, Lincoln, Oxford, Piscataquis, Sagadahoc, Somerset, Waldo and York Counties in Maine.

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

Modification Number	Publication Date
0	03/12/2010
1	03/26/2010
2	05/14/2010
3	09/03/2010

* ENGI0004-015 04/01/2010

	Rates	Fringes
Power equipment operators:		
Asphalt Roller.....	\$ 19.43	9.06
Pavers.....	\$ 19.43	9.06

SUME2000-008 10/24/2000

	Rates	Fringes
CARPENTER.....	\$ 11.60	1.51
Ironworkers:		
Structural.....	\$ 12.03	1.58
Laborers:		
Drillers.....	\$ 10.00	2.50
Flaggers.....	\$ 7.25	
Guardrail Installers.....	\$ 7.92	
Landscape.....	\$ 7.87	.16
Line Stripper.....	\$ 8.69	.23
Pipelayers.....	\$ 9.21	2.31
Rakers.....	\$ 9.00	1.51
Sign Erectors.....	\$ 10.00	
Unskilled.....	\$ 8.66	1.38
Wheelman.....	\$ 8.50	.43
Power equipment operators:		
Backhoes.....	\$ 11.87	2.05
Bulldozers.....	\$ 12.33	2.88
Cranes.....	\$ 14.06	1.75

Excavators.....	\$ 12.38	2.48
Graders.....	\$ 13.06	3.73
Loaders.....	\$ 11.41	2.87
Mechanics.....	\$ 13.18	2.57

Truck drivers:

Dump.....	\$ 9.35	3.10
Tri axle.....	\$ 8.70	1.18
Two axle.....	\$ 8.56	2.19

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

=====

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

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

2.) If the answer to the question in 1.) is yes, then an

interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

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

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

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

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

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

=====

END OF GENERAL DECISION

Town: Waterville – Winslow
Project: STP-1728(800)X; PIN 17288.00
Location: Interconnect between various signal systems in Waterville and one signal system in Winslow.

**SPECIAL PROVISIONS
SECTION 104
Utilities**

MEETING

A Pre-construction Utility Conference, as defined in Subsection 104.4.6 of the Standard Specification is required.

GENERAL INFORMATION

The following list identifies all known utilities within the limits of City of Waterville and the Town of Winslow:

Utility	Aerial	Underground	Impacted
GWI	X		No
Central Maine Power Company	X		No
City of Waterville ⁽¹⁾	X		No
Fair Point Communications	X		Yes
FPL Energy Maine	N/A	N/A	No
Kennebec Sanitary Treatment District		X	No
Kennebec Water District		X	No
Maine Central Railroad Company ⁽²⁾	N/A	N/A	No
Mid-Maine Telecom	X		No
Oxford Networks	X		Yes
Time Warner Cable (Augusta West Office)	X		Yes
Town of Winslow ⁽³⁾	X		No
Unity Tel, inc	X		No
Waterville Sewerage District		X	No

⁽¹⁾ The existing signal system to be upgraded/modified by the Contractor as part of this Contract, compensation for this work is included in the related contract pay items.

⁽²⁾ No Contractor’s equipment or materials will be placed on the railroad right-of-way and no work will be accomplished from the railroad right-of-way and no contractor’s personnel will trespass on the railroad right-of-way. Though no work is anticipated within 50 feet of any railroad track, the contractor will be responsible for all coordination with the railroad and responsible for all expenses associated with any work within 50feet of the railroad including but not limited to required insurance.

⁽³⁾ The existing signal system to be upgraded/modified by the Me DOT Project.

Special Note to the Contractor:

- 1) During traffic control operations, no vehicle will be stopped within 50 feet of the railroad tracks during any work accomplished in-conjunction with the proposed project.*
- 2) No fire alarm conductors will be removed until the appropriate Fire Department has approved the location for fire alarm conductor removal.*

Temporary utility adjustments are **not** anticipated as part of this project.

Each respective utility company will be responsible for adjusting their facilities, with the following exception: **The Contract will remove the abandoned fire alarm cable on poles that will have new interconnect cable attached. All costs associated with the removal of the abandoned fire alarm cable, including but not limited to labor, materials, equipment, traffic control, etc. will be considered incidental to related contract items.**

Utility company working days are Monday through Friday, conditions permitting. Estimated utility working days are based on a single crew each day for each utility.

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

MISCELLANEOUS INFORMATION

SIGNING

Any utility company 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 flaggers employed as field conditions determine. 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.

BLASTING

In addition to any other notice that may be required, the Contractor shall notify an authorized representative of each utility company having facilities close to the work site no later than **24 hours** before the blast. The notice shall state the approximate time of the blast.

Special Provisions – Utilities
Waterville – Winslow
PIN 17288.00
July 26, 2010
Page 3

DIG SAFE

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

PROPOSED UTILITY ADJUSTMENTS

Waterville Fire Department

Pole Number	Street	Plan Sheet No.	Estimated Working Hours	Proposed Adjustment
BA 51 51 41	Main Street north of Armory Road	42	2	Fire Alarm Down 6”
CMP 3 3 2	Temple Street	43	2	Fire Alarm down one foot
CMP 4 2 3	Temple Street	43	2	Fire Alarm down 3 feet
Total Estimated Hours			6	

Time Warner Cable

Pole Number	Street	Plan Sheet No.	Estimated Working Hours	Proposed Adjustment
NET 53 53 43	Main Street north of Armory Road	42	2	Time Warner down one foot
CMP 54 230 54 14 44	Main Street north of Armory Street	42	2	Time Warner down one foot
NET 13 3	Armory Street	46	2	Time Warner down one foot
NET 15 1	Armory Street	46	2	Time Warner down 18”
CMP 20 1/2	Hazelwood	46	2	Time Warner down One foot
CMP 501 9	Hazelwood	37	2	Time Warner down one foot
CMP 1	Benton Ave (Winslow).	43	2	Time Warner down one foot
Total Estimated Hours			14	

**Special Provisions – Utilities
Waterville – Winslow
PIN 17288.00
July 26, 2010
Page 4**

Oxford Networks

Pole Number	Street	Plan Sheet No.	Estimated Working Hours	Proposed Adjustment
NET 53 53 43	Main Street north of Armory Road	42	2	Oxford Networks down one foot
CMP 54 230 54 14 44	Main Street north of Armory Street	42	2	Oxford Networks down one foot
Total Estimated Hours			4	

Fair Point Communications

Pole Number	Street	Plan Sheet No.	Estimated Working Hours	Proposed Adjustment
NET 53 53 43	Main Street north of Armory Road	42	2	Fair Point down one foot
CMP 54 230 54 14 44	Main Street north of Armory Street	42	2	Fair Point down one foot
NET 15 1	Armory Street	46	2	Fair Point down 18"
CMP 20 1/2	Hazelwood	46	2	Fair Point UP 24"
CMP 501 9	Hazelwood	37	2	Fair Point lowest tel down 6"; Next lowest tel down one foot
Total Estimated Hours			10	

Utility Contact Information

The following list is provided as information to the Contractor and to assist the Contractor with contacting utility companies located within the City of Waterville and the Town of Winslow. The utility list is to be considered as a guide only and is not to be considered complete; it is the contractor's responsibility to verify the existence of utility facilities within the proposed project limits.

**Special Provisions – Utilities
 Waterville – Winslow
 PIN 17288.00
 July 26, 2010
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Waterville - Winslow

Utility	Contact	Phone	e-mail
GWI.	Joshua Massey	(207)602-1174x174	jmassey@zwi.net
Central Maine Power Company	John Rugan	(207)453-5605	john.rugan@cmpco.com
Central Maine Power Company	Dan Brady	(207) 791-1041	daniel.brady@cmpco.com
Fair Point Communications	William Francini	(207)990-5243	jsmith@fairpoint.com
FPL Energy Maine	Kirk Toth	(207) 795-1342	kirk_s_toth@fpl.com
Kennebec Sanitary Treatment District	Timothy LeVasseur	(207)873-0611	tl@kstd.com
Kennebec Water District	Jefferson Longfellow	(207)872-2764	Jefferson@prexar.com
Maine Central Railroad Company	George Thayer	(978)663-1262	gthayer@panamrailways.com
MaineCom	Mark Curtis	(207)629-0198	mcurtis@mainecom.com
OTT	Dave Blanchard	(207)992-9945	dave.blanchard@pinetreenetworks.com
Oxford Networks	Michael Ellingwood	333-3471	mellingwood@oxfordnetworks.com
Time Warner Cable	David Bouchard	620-3411 x 667	dave.bouchard@twcable.com
Town of Winthrop	Cornell Knight	377-7200	cknight@winthropmaine.org
Winthrop Utilities District	Daniel Wells	377-2717	winutil@fairpoint.net

THE CONTRACTOR SHALL PLAN AND CONDUCT THE WORK ACCORDINGLY.

/dpb

Waterville PIN 17288.00						
7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
NET 96 69	KMD	24	18	38		
NET 299 95 68	KMD	24	18	38	N/A	Use existing fiber optic
2nd Rangeway Left						
NY 94 67	KMD	24	18	38	N/A	Use existing fiber optic
NY 93 66	KMD	24	18	38	N/A	Use existing fiber optic
SB Off Left						
No # (MDOT Pole)	KMD	24	18	38	N/A	Use existing fiber optic
CMP 65	KMD	24	18	38	N/A	Use existing fiber optic
No #	KMD	24	18	38	N/A	Use existing fiber optic (Fiber / CATV / Tel Only, Power only over I-95)
CMP 64 60	KMD	N/A	N/A	38	N/A	Power only (Fiber attached to NET 22 91 635)
NET 22 91 635	KMD	24	18	38	N/A	Use existing fiber optic
NET 229 90 62 122	KMD	24	18	38	N/A	Use existing fiber optic
Jefferson Street Left						
89 61 121	KMD	24	18	38	N/A	Use existing fiber optic
NET 88 60 2 120	KMD	24	18	38	N/A	Use existing fiber optic
59 119 87	KMD	24	18	38	N/A	Use existing fiber optic
new VZ 286 118	KMD	24	18	38	N/A	Use existing fiber optic
229 85 57 117	KMD	24	18	38	N/A	Use existing fiber optic
Washington Street Left/Right						
NET 229 84 56 116	KMD	24	18	38	N/A	Use existing fiber optic
NET 83 55 2 115	KMD	24	18	38	N/A	Use existing fiber optic
Airport Road Right						
229 BA 81	KMD	24	18	38	N/A	Use existing fiber optic
NET 80-1/2 52-1/2 113	KMD	24	18	38	N/A	Use existing fiber optic
BA 229/80 52 112	KMD	24	18	38	N/A	Use existing fiber optic

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
NET 79 51 111	KMD	24	18	38	N/A	Use existing fiber optic
VZ 78 50 CMP 2 110	KMD	24	18	38	N/A	Use existing fiber optic
VZ 77 49 109	KMD	24	18	38	N/A	Use existing fiber optic
VZ 76 48 108	KMD	24	18	38	N/A	Use existing fiber optic
VZ 229/75 47 107	KMD	24	18	38	N/A	Use existing fiber optic
74 46 106	KMD	24	18	38	N/A	Use existing fiber optic
VZ 73 45 2 105	KMD	24	18	38	N/A	Use existing fiber optic
VZ 72 44 104	KMD	24	18	38	N/A	Use existing fiber optic
VZ 71 43 103	KMD	24	18	38	N/A	Use existing fiber optic
VZ 229/70 42 102	KMD	24	18	38	N/A	Use existing fiber optic
VZ 69 41-1/2 101	KMD	24	18	38	N/A	Use existing fiber optic
VZ 68-1/2 2 100	KMD	24	18	38	N/A	Use existing fiber optic
NET 68 40 99	KMD	24	18	38	N/A	Use existing fiber optic
NET 67 39 98	KMD	24	18	38	N/A	Use existing fiber optic
VZ 266 38 97	KMD	24	18	38	N/A	Use existing fiber optic
Mall Entrance Left						
VZ 229 65 37 96	KMD	24	18	38/39	N/A	Use existing fiber optic
NYNEX 64 36 2 95	KMD	24	18	38/39	N/A	Use existing fiber optic
NYNEX 63 35 94	KMD	24	18	39	N/A	Use existing fiber optic
NET 62 34 93	KMD	24	18	39	N/A	Use existing fiber optic
NET 61 33 92	KMD	24	18	39	N/A	Use existing fiber optic
NET 229 60 32 91	KMD	24	18	39	N/A	Use existing fiber optic

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
NET 229 59 31 2 90	KMD	24	18	39	N/A	Use existing fiber optic
NYNEX 58 30 89	KMD	24	18	39	N/A	Use existing fiber optic
1st Rangeway Left / Inland Hospital Entrance Right						
NYNEX 57 29 88	KMD	24	18	39	N/A	Use existing fiber optic
NYNEX 229/55 27 87	KMD	24	18	39	N/A	Use existing fiber optic
NYNEX 54 26 86	KMD	24	18	39	N/A	Use existing fiber optic
NET 53 25 2 85	KMD	24	18	39	N/A	Use existing fiber optic
24 84	KMD	24	18	39	N/A	Use existing fiber optic
Rideout Street Right						
VZ 51 23 83	KMD	24	18	39	N/A	Use existing fiber optic
VZ 50 22 82	KMD	24	18	39	N/A	Use existing fiber optic
Carver Street Left / Right						
VZ 49 21 81A	KMD	24	18	39	N/A	Use existing fiber optic
VZ 48 20 2 80	KMD	24	18	39	N/A	Use existing fiber optic
VZ 47 19 79	KMD	24	18	39	N/A	Use existing fiber optic
VZ 46 18 78	KMD	24	18	39	N/A	Use existing fiber optic
229 VZ 45 17 77	KMD	24	18	39	N/A	Use existing fiber optic
VZ 44 16 76	KMD	24	18	39	N/A	Use existing fiber optic
Brigham Street Left						
VZ 43 15 75	KMD	24	18	39	N/A	Use existing fiber optic
Nelson Street Right						
229 VZ 42 14 74	KMD	24	18	39	N/A	Use existing fiber optic
NET 41 13 73	KMD	24	18	39	N/A	Use existing fiber optic
NET 40 12 72	KMD	24	18	39	N/A	Use existing fiber optic
JFK Plaza Entrance Right						
NET 229 39 71	KMD	24	18	39	N/A	Use existing fiber optic
NYNEX 38 40 2 70	KMD	24	18	39	N/A	Use existing fiber optic

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
NYNEX 37 9 69	KMD	24	18	39	N/A	Use existing fiber optic
NYNEX 36 8 68	KMD	24	18	39	N/A	Use existing fiber optic
NYNEX 229 35 7 67	KMD	24	18	39	N/A	Use existing fiber optic
NYNEX 34 6 66	KMD (north of Cool Street)	24	18	39	N/A	Use existing fiber optic
Cool Street Left						
CMP 5 2 65	KMD (south of Cool Street)	24	18	39	N/A	Use existing fiber optic
Collette Street Right						
64	KMD (south of Cool Street)	24	18	39	N/A	Use existing fiber optic
West River Road Right						
CMP 1	KMD (south of Cool Street)	24	18	39	N/A	Use existing fiber optic
CMP 48	KMD (south of West River Rd.)	Attach new fiber optic to existing fiber optic guy wire	N/A	39		Connects Proposed Interconnect System With The Signal System at Intersection of KMD, Silver Street and Route104
No #	West River Road	24	18	39	N/A	Use existing fiber optic
229 NYNEX 26 1	Cool Street	24 & 24	18 & 18	39	N/A	Use existing fiber optic
Merryfield Avenue Right						
229 VZ 25 2	Cool Street	24 & 24	18 & 18	39	N/A	Use existing fiber optic
Sawtelle Street Right						
3 NET 24	Cool Street	24 & 24	18 & 18	39/44	N/A	Use existing fiber optic
4 NET 23	Cool Street	24 & 24	18 & 18	39/44	N/A	Use existing fiber optic
NET 22 5	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
Carle Street Left						
6	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
Webber Street Right						
7	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
Barnet Avenue Left						
8 NET 19 8	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
Burrill Street Right						
9 9 NET 18	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
Glidden Street Right						
10 NET 17 10	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
Thurshwood Park Right						
10 1/2 NET 16 1/2	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
11	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
Violette Avenue Left						
NET 15 12 10	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
NET 14 13	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
Matthews Avenue Left						
VZ 13 14	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
NET 229 12 15	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
NET 1? 16	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
NET1? 17	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
Oakland Street Left						
NET 19 18	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
NET 8 19	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
NET 5 20	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
CMP 22	Cool Street	24 & 24	18 & 18	44	N/A	Use existing fiber optic
CMP 1	Messalonskee Ave north of Western Ave	24 & 24	18 & 18	44/45	N/A	Use existing fiber optic
Foster Court Left						
CMP 3 2	Messalonskee Ave north of Western Ave	24 & 24	18 & 18	45	N/A	Use existing fiber optic
CMP 4 3	Messalonskee Ave north of Western Ave	24 & 24	18 & 18	45	N/A	Use existing fiber optic
CMP 5 4	Messalonskee Ave north of Western Ave	24 & 24	18 & 18	45	N/A	Use existing fiber optic
CMP 6 5	Messalonskee Ave north of Western Ave	24 & 24	18 & 18	45	N/A	Use existing fiber optic
Brooklyn Avenue Left						
CMP 6-1/2 6 VZ	Messalonskee Ave north of Western Ave	24 & 24	18 & 18	45	N/A	Underground from CMP 6 1/2 6 VZ to Superintendent's Office then underground to High School
Messalonskee Ave. Right						
CMP 23 7 1	Western Ave. North of Cool St.	12	10	44/46	N/A	Use existing fiber optic

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Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
CMP 24 2	Western Ave. North of Cool St.	12	10	44/46	N/A	Use existing fiber optic
CMP 25	Western Ave. North of Cool St.	12	10	44/46	N/A	Use existing fiber optic
CMP 26	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
CMP 27 7 5	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
Morrison Avenue Right						
CMP 28 6	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
CMP 29	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
Valley Avenue Left Queens Way Right						
CMP 30 8	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
CMP 31 9	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
Cedar Street Left						
CMP 32 10	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
Mae Terrace Right						
33 11	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
Vose Street Right						
CMP 34 12	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
CMP 35 13	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
CMP 36 14	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
CMP 37 15	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
CMP 38 16	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
Russell Street Left Broad Street Right						
CMP 39	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
CMP 40 18	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
CMP 41 19	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
42 20	Western Ave. North of Cool St.	12	10	46	N/A	Use existing fiber optic
CMP 42.1 20S	Western Ave. North of Cool St.	12	10	46	N/A	Fiber optic ends at Parks & Recreation Building
21 229 5	Western Ave. (South of Cool Street)	24	18	46	N/A	Use existing fiber optic
20 17	Western Ave. (South of Cool Street)	24	18	44/45	N/A	Use existing fiber optic
South Street Right Burleigh Street Left						
CMP 19 16	Western Ave. (South of Cool Street)	24	18	44/45	N/A	Use existing fiber optic
CMP 18 15	Western Ave. (South of Cool Street)	N/A	N/A	44/45	N/A	Beyond Existing Fiber Optic Route
CMP 1 1	Burleigh Street	12 & 24	10 & 18	44/45	N/A	Use existing fiber optic
CMP 2	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
CMP 3	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
NET 4 4	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
NET 5 5	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
NET 6 6	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
NET 7	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
VZ 8	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
VZ 9	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
Winter Street Right						
VZ 10	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
VZ 11 11	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
Heath Street Right						
VZ 12 12	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
old CMP 13 VZ 13 new CMP 1 13	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
VZ 14 14	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
VZ 16 16	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
VZ 17 17	Burleigh Street	12 & 24	10 & 18	45	N/A	Use existing fiber optic
Gilman Street Left / Right						
20 20	Burleigh Street (north of Gilman)	12	10	45	N/A	Use existing fiber optic
CMP 12 12	Gilman Street north of Burleigh	36 & 12	32 & 2	45	N/A	Use existing fiber optic
CMP 13 13	Gilman Street north of Burleigh	36 & 12	32 & 2	45	N/A	Use existing fiber optic
Greglock Right						
CMP 14 14	Gilman Street north of Burleigh	36 & 12	32 & 2	45	N/A	Use existing fiber optic
CMP 15 15	Gilman Street north of Burleigh	36 & 12	32 & 2	45	N/A	Use existing fiber optic
CMP 16 16	Gilman Street north of Burleigh	36 & 12	32 & 2	45	N/A	Use existing fiber optic
Messalonskee Stream						
16-1/2	Mayflower Hill Drive north of Messalonskee Stream	36 & 12	32 & 2	45	N/A	Use existing fiber optic
NET 1 CMP 3	Riverside Avenue	36 & 12	32 & 2	45	N/A	Use existing fiber optic
CMP 1 3	Riverside Avenue	36 & 12	32 & 2	45	N/A	Use existing fiber optic
Highland Avenue Left / Right						
CMP 15	Between Highland Ave & High School	36 & 12	32 & 2	45	N/A	Use existing fiber optic
CMP 501	Between Highland Ave & High School	36 & 12	32 & 2	45	N/A	Use existing fiber optic
CMP 501.1	Between Highland Ave & High School	36 & 12	32 & 2	45	N/A	Use existing fiber optic
CMP 11 11	Gilman Street south of Burleigh Street	36 & 24	32 & 12	45	N/A	Use existing fiber optic
CMP 10 10	Gilman Street south of Burleigh Street	36 & 24	32 & 12	45	N/A	Use existing fiber optic
Bartlett Street Right						

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
CMP 9 9	Gilman Street south of Burleigh Street	36 & 24	32 & 12	45	N/A	Use existing fiber optic
CMP 8 8	Gilman Street south of Burleigh Street	36 & 24	32 & 12	45	N/A	Use existing fiber optic
CMP 7 7	Gilman Street south of Burleigh Street	36 & 24	32 & 12	45	N/A	Use existing fiber optic
West Street Left / Right						
CMP 6 6	Gilman Street south of Burleigh Street	36 & 24	32 & 12	45	N/A	Use existing fiber optic
CMP 5 5	Gilman Street south of Burleigh Street	36 & 24	32 & 12	45	N/A	Use existing fiber optic
CMP 4 4	Gilman Street south of Burleigh Street	36 & 24	32 & 12	45	N/A	Use existing fiber optic
Middle Street Left						
CMP 3 3	Gilman Street south of Burleigh Street	36 & 24	32 & 12	45	N/A	Use existing fiber optic
CMP 2 2A	Gilman Street south of Burleigh Street	36 & 24	32 & 12	45	N/A	Use existing fiber optic
CMP 1 1	Gilman Street south of Burleigh Street	36 & 24	32 & 12	45	N/A	Use existing fiber optic
Pleasant Street Left / Right						
VZ 12	Pleasant Street east of Gilman	24	12	45/41	N/A	Use existing fiber optic
CMP 11 11	Pleasant Street east of Gilman	24	12	45/41	N/A	Use existing fiber optic
NET 10 10	Pleasant Street east of Gilman	24	12	41	N/A	Use existing fiber optic
Pleasant Street Place Right						
NET 9 9	Pleasant Street east of Gilman	24	12	41	N/A	Use existing fiber optic
VZ 8	Pleasant Street east of Gilman	24	12	41	N/A	Use existing fiber optic

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
NET 7	Pleasant Street east of Gilman	24	12	41	N/A	Use existing fiber optic
Net 6 6	Pleasant Street east of Gilman	24	12	41	N/A	Use existing fiber optic
North Street Left / Right						
VZ 5 5	Pleasant Street east of Gilman	24	12	41	N/A	Use existing fiber optic
VZ 4 4	Pleasant Street east of Gilman	24	12	41	N/A	Use existing fiber optic
VZ 3 3	Pleasant Street east of Gilman	24	12	41	N/A	Use existing fiber optic
VZ 2 1	Pleasant Street east of Gilman	24	12	41	N/A	Use existing fiber optic
Intersection Pleasant & Main Street						
Intersection Park & Elm Street						
1 NET 1/2	Park Street (Between Pleasant and Elm)	12	8	41	N/A	Use existing fiber optic
NET 1 2	Park Street (Between Pleasant and Elm)	12	8	41	N/A	Use existing fiber optic
NET 2 3	Park Street (Between Pleasant and Elm)	12	8	41	N/A	Use existing fiber optic
NET 3 4	Park Street (Between Pleasant and Elm)	12	8	41	N/A	Use existing fiber optic
NET 4 5	Park Street (Between Pleasant and Elm)	12	8	41	N/A	Use existing fiber optic
18.1 NET 5	Park Street (Between Pleasant and Elm)	12	8	41	N/A	Use existing fiber optic
Intersection Park & Pleasant Street					N/A	Use existing fiber optic
NET 13 13	Pleasant Street west of Gilman	36	32	41/45	N/A	Use existing fiber optic
VZ 14	Pleasant Street west of Gilman	36	32	41/45	N/A	Use existing fiber optic
VZ 14-1/2 14-1/2	Pleasant Street west of Gilman	36	32	41/45	N/A	Use existing fiber optic

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
15 15	Pleasant Street west of Gilman	36	32	41/45	N/A	Use existing fiber optic
Pleasant Court Right						
16 16	Pleasant Street west of Gilman	36	32	41/45	N/A	Use existing fiber optic
CMP 17 17	Pleasant Street west of Gilman	36	32	41/45	N/A	Use existing fiber optic
NET 18 18	Pleasant Street west of Gilman	36	32	41/45	N/A	Use existing fiber optic
NET 19 19	Pleasant Street west of Gilman	36	32	45	N/A	Use existing fiber optic
Sheldon Place Right						
NET 20 20	Pleasant Street west of Gilman	36	32	45	N/A	Use existing fiber optic
CMP 21 21	Pleasant Street west of Gilman	36	32	45	N/A	Use existing fiber optic
Winter Street Left / Right						
CMP 22	Pleasant Street west of Gilman	36	32	45	N/A	Use existing fiber optic
CMP 23 23	Pleasant Street west of Gilman	36	32	45	N/A	Use existing fiber optic
CMP 24 24	Pleasant Street west of Gilman	36	32	45	N/A	Use existing fiber optic
CMP 25 25	Pleasant Street west of Gilman	36	32	45	N/A	Use existing fiber optic
Dalton Street Right						
CMP 26 26	Pleasant Street west of Gilman	12	12	45	N/A	Use existing fiber optic
School Street Left						
CMP 27	Pleasant Street west of Gilman	12	12	45	N/A	Use existing fiber optic
CMP 28	Pleasant Street west of Gilman	12	12	45	N/A	Use existing fiber optic
CMP 29	Pleasant Street west of Gilman	12	12	44/45	N/A	Use existing fiber optic
CMP 30 30	Pleasant Street west of Gilman	12	12	44/45	N/A	Use existing fiber optic
CMP 31 31	Pleasant Street west of Gilman	12	12	45	N/A	Use existing fiber optic
CMP 32 32	Pleasant Street west of Gilman	12	12	45	N/A	Use existing fiber optic

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
NET 33	Pleasant Street west of Gilman	12	12	45	N/A	Use existing fiber optic
Intersection Pleasant & Western Avenue				45		
Intersection Pleasant & Western Avenue						
CMP 10 8 1/3	Western Avenue south of Pleasant Street	12	12	45	N/A	Use existing fiber optic
CMP 9 8-1/2 VA	Western Avenue south of Pleasant Street	12	12	45	N/A	Use existing fiber optic
CMP 8 8	Western Avenue south of Pleasant Street	12	12	40/45	N/A	Use existing fiber optic
Elm Court Left						
CMP 7	Western Avenue south of Pleasant Street	12	12	40/45	N/A	Use existing fiber optic
CMP 6	Western Avenue south of Pleasant Street	12	12	40	N/A	Use existing fiber optic
Belmont Avenue Left						
CMP 5	Western Avenue south of Pleasant Street	12	12	40	N/A	Use existing fiber optic
CMP 4 4	Western Avenue south of Pleasant Street	12	12	40	N/A	Use existing fiber optic
Intersection Western & Elm Street						
19 19 23	Western Avenue south of Elm Street	12	12	45	N/A	N/A
CMP 18 22	Elm Street	No Existing Fiber No Proposed Fiber	N/A	45	N/A	N/A
CMP 17 17 21	Elm Street	No Existing Fiber No Proposed Fiber	N/A	40	N/A	N/A
CMP 16 NYNEX 16 2 20	Elm Street	No Existing Fiber No Proposed Fiber	N/A	40	N/A	N/A

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
CMP 15 5 19	Elm Street	No Existing Fiber No Proposed Fiber	N/A	40	N/A	N/A
CMP 14 14 18	Elm Street	No Existing Fiber No Proposed Fiber	N/A	40	N/A	N/A
CMP 13 13 17	Elm Street	No Existing Fiber No Proposed Fiber	N/A	40	N/A	N/A
12 16	Elm Street	No existing fiber optic	N/A	40	N/A	Remove existing traffic conductor; replace with new fiber optic
CMP 11 2 15 11	Elm Street	No existing fiber optic	N/A	40	N/A	Remove existing traffic conductor; replace with new fiber optic
CMP 10 10 14	Elm Street	No existing fiber optic	N/A	40	N/A	Remove existing traffic conductor; replace with new fiber optic
CMP 9 9 13	Elm Street	No existing fiber optic	N/A	40	N/A	Remove existing traffic conductor; replace with new fiber optic
CMP 7 7 12	Elm Street	No existing fiber optic	N/A	40	N/A	Remove existing traffic conductor; replace with new fiber optic
CMP 6 6 11	Elm Street	No existing fiber optic	N/A		N/A	Remove existing traffic conductor; replace with new fiber optic
CMP 5 1/2 2 10 1/2	Elm Street	No existing fiber optic	N/A	40	N/A	Remove existing traffic conductor; replace with new fiber optic
CMP 5 9	Elm Street	No existing fiber optic	N/A	40	N/A	Remove existing traffic conductor; replace with new fiber optic
CMP 1	Spring Street	No existing fiber optic	N/A		N/A	Remove existing traffic conductor; replace with new fiber optic

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Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
CMP 2	Spring Street	No existing fiber optic	N/A	40	N/A	Remove existing traffic conductor; replace with new fiber optic
CMP 3	Spring Street	No existing fiber optic	N/A	40	N/A	Remove existing traffic conductor; replace with new fiber optic
CMP 4	Spring Street	No existing fiber optic	N/A	40	N/A	Remove existing traffic conductor; replace with new fiber optic
CMP 2 2 21 10	Spring Street (Intersection of Spring, Silver, Concourse E)	No existing fiber optic	N/A	40	N/A	Remove existing traffic conductor; replace with new fiber optic
Intersection Western Avenue / Elm Street						
19 1/2 19 1/2 24	Elm Street west of Western Avenue	12	12	40	N/A	Use existing fiber optic
CMP 20 20 2 25	Elm Street west of Western Avenue	12	12	40	N/A	Use existing fiber optic
21 26	Elm Street west of Western Avenue	12	12	40	N/A	Use existing fiber optic
22 22 NET 2 27	Elm Street west of Western Avenue	12	12	40	N/A	Use existing fiber optic
Silver Terrace Right						
12.1 22	Elm Street west of Western Avenue	12	12	40	N/A	Use existing fiber optic
CMP 14 14 2 30 4 0 1	Silver Street west of Elm Street & Silver Terrace	12	12	40	N/A	Use existing fiber optic
CMP 15 15 31	Silver Street west of Elm Street & Silver Terrace	12	12	40	N/A	Use existing fiber optic
CMP 15-1/2 15-1/2 32 1/2	Silver Street west of Elm Street & Silver Terrace	12	12	40	N/A	Use existing fiber optic
16 CMP 16 33	Silver Street west of Elm Street & Silver Terrace	12	12	40	N/A	Use existing fiber optic
Redington Street Left						
17 17 4 0 2	Silver Street west of Elm Street & Silver Terrace	12	12	40	N/A	Use existing fiber optic

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Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
CMP 18 18 2 35	Silver Street west of Elm Street & Silver Terrace	12	12	40	N/A	Use existing fiber optic
CMP 10 32	Main Street north of Pleasant St.	24 24	12 4	41	N/A	Use existing fiber optic
Sanger Avenue Left						
CMP 11 15 1	Main Street north of Pleasant St.	24 24	12 4	41	N/A	Use existing fiber optic
Dunbar Court Left						
CMP 12 12 2	Main Street north of Pleasant St.	24 24	12 4	41	N/A	Use existing fiber optic
NET 13 13 3	Main Street north of Pleasant St.	24 24	12 4	41	N/A	Use existing fiber optic
Wentworth Court Left						
				41		
CMP 1 1	Wentworth Court	24 24	4 12	41	N/A	Use existing fiber optic
CMP 2 2	Wentworth Court	24 24	4 12	41	N/A	CMP 2 2 To Public Works Building Use existing Fiber optic
Chaplin Street Right						
NET 14 14 4	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
VZ8 15 15 14 5	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
Hillside Avenue Right						
NET 16 16 6	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
8 BA 17 7	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
VZ 18 18 8	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
CMP 19 19 9	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
Boutelle Avenue Left						
VZ 230 20 14 10	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
BA 21 21 11	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
Prospect Street Left Brook Street Right						
22 8 22 12	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
VZ 23 J23 CMP 13	Main Street north of Pleasant St.	24	18	4141	N/A	Use existing fiber optic

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Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
VZ 24 24 14	Main Street north of Pleasant St. Roosevelt Avenue Left	24	18	41	N/A	Use existing fiber optic
VZ 230 25 25 14 15	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
VZ 27 27 16	Main Street north of Pleasant St. Kelsey Street Right / Johnson Heights Left	24	18	41	N/A	Use existing fiber optic
NET 230 28 28 17	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
230 29 29 18	Main Street north of Pleasant St. Oak Street Right / Eustis Pkwy Left	24	18	41	N/A	Use existing fiber optic
VZ 230 3 30 19	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
CMP 31 31 14 20	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
VZ 32 32 21	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
NET 33 33 22	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
NET 8 34 34 23	Main Street north of Pleasant St. High Street Right	24	18	41	N/A	Use existing fiber optic
VZ 230 VZ35 35 24	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
NET 36 36 14 25	Main Street north of Pleasant St.	24	18	41	N/A	Use existing fiber optic
37 NET 37 26	Main Street north of Pleasant St.	24	18	41/42	N/A	Use existing fiber optic
38 NET 38 27	Main Street north of Pleasant St.	24	18	41/42	N/A	Use existing fiber optic
NET 39 39 28	Main Street north of Pleasant St.	24	18	42	N/A	Use existing fiber optic
VZ 230 4 40 29	Main Street north of Pleasant St.	24	18	42	N/A	Use existing fiber optic
VZ 41 14 30	Main Street north of Pleasant St.	24	18	42	N/A	Use existing fiber optic
VZ 42 42 31	Main Street north of Pleasant St.	24	18	42	N/A	Use existing fiber optic

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Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
NET 43 43 32	Main Street north of Pleasant St.	24	18	42	N/A	Use existing fiber optic
NET 43-1/2 33	Main Street north of Pleasant St.	24	18	42	N/A	Use existing fiber optic
CMP 45 NET 44 45 34	Main Street north of Pleasant St.	24	18	42	N/A	Use existing fiber optic
46 14 35	Main Street north of Pleasant St.	24	18	42	N/A	Use existing fiber optic
NET 46 46-1/2 36	Main Street north of Pleasant St.	24	18	42	N/A	Use existing fiber optic
NET 47 47 37	Main Street north of Pleasant St.	24	18	42	N/A	Use existing fiber optic
NET 48 48 3?	Main Street north of Pleasant St.	24	18	42	N/A	Use existing fiber optic
Armory Street Right						
230 49 CMP 49 39	Main Street north of Armory Road	24	18	42	N/A	Use existing fiber optic
230 50 50 14 40	Main Street north of Armory Road	no existing fiber	no existing fiber	42	Fair Point	DOT 6" above Fire Alarm
BA 51 51 41	Main Street north of Armory Road	no existing fiber	no existing fiber	42	Fair Point	Fire Alarm down 6", DOT old Fire Alarm location
VZ 52 52 42	Main Street north of Armory Road	no existing fiber	no existing fiber	42	Fair Point	DOT one foot above CATV
NET 53 53 43	Main Street north of Armory Road	no existing fiber	no existing fiber	42	Fair Point	Oxford Networks down one foot, Fair Point down one foot, CATV down one foot, DOT at old CATV location
NB On Right						
CMP 54 230 54 14 44	Main Street north of Armory Road	no existing fiber	no existing fiber	42	CMP Co.	Oxford Networks down one foot, Fair Point down one foot, CATV down one foot, DOT at old CATV location
CMP 55 230 55	Main Street north of Armory Road	no existing fiber	no existing fiber	42	CMP Co.	DOT one foot above CATV
56	Main Street north of Armory Road	no existing fiber	N/A	42	CMP Co.	DOT one foot above CATV
CMP 58 58	Main Street north of Armory Road	no existing fiber	N/A	42	CMP Co.	DOT add anchor wire to existing CMP anchor rod
SB Off / SB On						
NET 230 60 60	Main Street north of Armory Road	no existing fiber	N/A	42	CMP Co.	DOT one foot above CATV; add anchor DOT
NET 1/2 60 61	Main Street north of Armory Road	no existing fiber	N/A	42	Fair Point	Use existing fiber optic

7/24/2010	Street	Existing Fiber	Available Fiber	Plan Sheet	Pole	Comments
Existing Pole #		Pairs	Pairs For Use	Number	Ownership	
NET 1 15 146 1	Armory Street	24	18	42/37	N/A	Use existing fiber optic
NYNEX 14 2	Armory Street	24	18	42/37	N/A	Use existing fiber optic
NET 3 13 3	Armory Street	24	18	42/46	N/A	Use existing fiber optic
NET 4 12 4	Armory Street	24	18	46	N/A	Use existing fiber optic
NET 5 11 5	Armory Street	24	18	46	N/A	Use existing fiber optic
NET 6 10 6	Armory Street	24	18	46	N/A	Use existing fiber optic
9 7 7	Armory Street	24	18	46	N/A	Use existing fiber optic
	Industrial Street Left					
8 8 8	Armory Street	24	18	46	N/A	Use existing fiber optic
NET 9 9 7	Armory Street	24	18	46	N/A	Use existing fiber optic
NET 10 10 6	Armory Street	24	18	46	N/A	Use existing fiber optic
NET 11 11 5	Armory Street	24	18	46	N/A	Use existing fiber optic
CMP 5.1	Between Armory and Mitchell School	24	18	46	N/A	Use existing fiber optic
CMP 532	Between Armory and Mitchell School	24	18	46	N/A	Use existing fiber optic
?????	Between Armory and Mitchell School	24	18	46	N/A	Use existing fiber optic
?????	Between Armory and Mitchell School	24	18	46	N/A	Use existing fiber optic
??????	Between Armory and Mitchell School	24	18	46	N/A	Use existing fiber optic
?????	Between Armory and Mitchell School	24	18	46	N/A	Use existing fiber optic

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
NET 12 4	Armory Street	No existing fiber	N/A	46/42	Fair Point	DOT one foot above CATV
NET 13 3	Armory Street	No existing fiber	N/A	46/42	Fair Point	CATV down one foot, DOT one foot above CATV
NET 14 2	Armory Street	No existing fiber	N/A	46/37	Fair Point	DOT mid-way between CATV and light fixture
NET 15 1	Armory Street	No existing fiber	N/A	46/37	Fair Point	Fair Point & CATV down 18", DOT one foot above CATV
1/2	Armory Street	No existing fiber	N/A	46/37	Fair Point	DOT 6"above CATV
CMP 20 1/2	Hazelwood (Armory becomes Hazelwood at Drummond Avenue)	No existing fiber	N/A	46/37	CMP Co.	CATV down one foot, DOT old CATV location, Point UP 24" Fair
Wilson Street						
CMP 501 9	Hazelwood	No existing fiber	N/A	37	CMP Co.	Lowest tel down 6", next lowest tel down one foot, CATV down one foot, DOT old CATV location
Crawford Street						
CMP 502 8 Cr	Hazelwood	No existing fiber	N/A	37	CMP Co.	Remove abandoned fire alarm, DOT abandoned fire alarm location
CMP 503	Hazelwood	No existing fiber	N/A	37	CMP Co.	Remove abandoned fire alarm, DOT abandoned fire alarm location
CMP 504	Hazelwood	No existing fiber	N/A	37	CMP Co.	Remove abandoned fire alarm, DOT abandoned fire alarm location; DOT add guy wire
NET 5 505	Hazelwood	No existing fiber	N/A	37	CMP Co.	DOT one foot above CATV
Central Avenue						
NET 4 506	Hazelwood	No existing fiber	N/A	37	Fair Point	DOT one foot above CATV
NET 507	Hazelwood	No existing fiber	N/A	37	Fair Point	Remove abandoned fire alarm, DOT abandoned fire alarm location; DOT add guy wire
NET 2 5	Hazelwood	No existing fiber	N/A	37	Fair Point	Remove abandoned fire alarm, CATV down 18", Tell down 6", DOT one foot above CATV
VZ 22 1/2 CMP 52 1/2 37	Hazelwood	No existing fiber	N/A	37	Fair Point	DOT Between CATV and tel

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Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
CMP 504 1 5	Main Street north of College Ave	No existing fiber	N/A	41	N/A	No Proposed Fiber
CMP 503 4 3	Main Street north of College Ave	No existing fiber	N/A	41	N/A	No Proposed Fiber
CMP 502 3 2	Main Street north of College Ave	No existing fiber	N/A	41	N/A	No Proposed Fiber
CMP 201 2 1	Main Street north of College Ave	No existing fiber	N/A	41	N/A	No Proposed Fiber
North Street Left						
CMP 6 6 13	Main Street north of College Ave	No existing fiber	N/A	41	N/A	No Proposed Fiber
CMP 7 7 26	Main Street north of College Ave	24	4	41	N/A	Use existing fiber optic
CMP 7-1/2 7-1/2 27	Main Street north of College Ave	24	4	41	N/A	Use existing fiber optic
CMP 8 8 28	Main Street north of College Ave	24	4	41	N/A	Use existing fiber optic
CMP 8-1/2 8-1/2 29	Main Street north of College Ave	24	4	41	N/A	Use existing fiber optic
College Place Right						
CMP 9 9 30	Main Street north of College Ave	24	4	41	N/A	Use existing fiber optic
CMP 9-1/2 9-1/2 31	Main Street north of College Ave	24	4	41	N/A	Use existing fiber optic
CMP 10 32	Main Street north of College Ave	24	4	41	N/A	Use existing fiber optic
Main Place Right						
				41		
Intersection of Getchell & Main Street						
CMP 4 VZ 4	Getchell Street	24	4	41	N/A	Use existing fiber optic
VZ 3	Getchell Street	24	4	41	N/A	Use existing fiber optic
NET 2	Getchell Street	24	4	41	N/A	Use existing fiber optic
Intersection Getchell & College						
				41		
Intersection Getchell & College						
CMP 7	College Ave (west of Getchell)	24	4	41	N/A	Use existing fiber optic
6	College Ave (west of Getchell)	24	4	41	N/A	Use existing fiber optic

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Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
CMP 5 1/5	College Ave (west of Getchell)	24	4	41	N/A	Use existing fiber optic
NO #	College Ave (west of Getchell)	24	4	41	N/A	Use existing fiber optic
CMP 3 1/3	College Ave (west of Getchell)	24	4	41/43	N/A	Use existing fiber optic
Intersection College & Union Street						
CMP 2 1/2	College Ave (west of Getchell)	24	4	41/43	N/A	Use existing fiber optic
CMP 5	Union Street (south of College)	24	4	41/43	N/A	Use existing fiber optic
CMP 4	Union Street (south of College)	24	4	41/43	N/A	Use existing fiber optic
CMP 3	Union Street (south of College)	24	4	43	N/A	Use existing fiber optic
CMP 2	Union Street (south of College)	24	4	43	N/A	Use existing fiber optic
CMP 1	Union Street (south of College)	24	4	43	N/A	Use existing fiber optic
CMP 18	Front Street	24	4	43	N/A	Use existing fiber optic
CMP 17	Front Street	24	4	43	N/A	Use existing fiber optic
CMP 15	Front Street	24	4	43	N/A	Use existing fiber optic
CMP 14 13-1/2 35 7	Front Street	24 12	4 2	43	N/A	Use existing fiber optic
13	Front Street	24 12	4 2	43	N/A	Use existing fiber optic
CMP 12-1/2 2	Front Street	24 12	4 2	43	N/A	Use existing fiber optic
CMP 12 3	Front Street	24 12	4 2	43	N/A	Use existing fiber optic
CMP 11-1/2 4	Front Street	24 12	4 2	43	N/A	Use existing fiber optic
CMP 12 5	Front Street	24 12	4 2	43	N/A	Use existing fiber optic
CMP 10 6	Front Street	24 24 12	4 2 19	43	N/A	Use existing fiber optic
CMP 9 7	Front Street	24 24 12	4 2 19	43	N/A	Use existing fiber optic
CMP 8 8	Front Street	24 24 12	4 2 19	43	N/A	Use existing fiber optic

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Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
CMP 8-1 8-1	Front Street	24 24 12	4 2 19	43	N/A	Use existing fiber optic
CMP 1	Approach to 2¢ Bridge	24	19	43	N/A	Use existing fiber optic
CMP 2	Approach to 2¢ Bridge	24	19	43	N/A	Use existing fiber optic
no #	Approach to 2¢ Bridge	24	19	43	N/A	Use existing fiber optic
	2¢ Bridge	24	19	43	N/A	Use existing fiber optic
no #	2¢ Bridge to Winslow Town Office	24	19	43	N/A	Use existing fiber optic
no #	2¢ Bridge to Winslow Town Office	24	19	43	N/A	Use existing fiber optic
no #	2¢ Bridge to Winslow Town Office	24	19	43	N/A	Use existing fiber optic
Marden's Street Light Pole	Mill Street	N/A	N/A	43	KRDP, LLC	Install new Fiber Optic Conductor on existing light pole.
Marden's Street Light Pole	Mill Street	N/A	N/A	43	KRDP, LLC	Install new Fiber Optic Conductor on existing light pole.
Marden's Street Light Pole	Mill Street	N/A	N/A	43	KRDP, LLC	Install new Fiber Optic Conductor on existing light pole.
Marden's Street Light Pole	Mill Street	N/A	N/A	43	KRDP, LLC	Install new Fiber Optic Conductor on existing light pole.
Marden's Street Light Pole	Mill Street	N/A	N/A	43	KRDP, LLC	Install new Fiber Optic Conductor on existing light pole.
VZ 5	Benton Avenue	N/A	N/A	43	Fair Point	Remove Abandoned Fire Alarm, DOT at old Fire Alarm location, DOT add anchor wire
4 4	Benton Avenue	N/A	N/A	43	Fair Point	Remove Abandoned Fire Alarm, DOT at old Fire Alarm location

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
3	Benton Avenue	N/A	N/A	43	CMP Co.	Remove Abandoned Fire Alarm, DOT at old Fire Alarm location
3S	Benton Avenue	N/A	N/A	43	CMP Co.	DOT add anchor wire
NET 2 2	Benton Avenue	N/A	N/A	43	Fair Point	Remove Abandoned Fire Alarm, DOT at old Fire Alarm location
CMP 1	Benton Avenue (Intersection of Benton Ave., Clinton Ave., Bay St., Bridge St.)	N/A	N/A	43	CMP Co.	CATV down one foot, DOT at old CATV location, DOT add sidewalk type anchor.
2 121 1	Temple Street	N/A	N/A	43	CMPCo.	DOT 6" above Fire Alarm
CMP 3 3 2	Temple Street	N/A	N/A	43	CMPCo.	Fire Alarm down one foot; DOT at old Fire Alarm location
CMP 4 2 3	Temple Street	N/A	N/A	43	CMPCo.	Fire alarm down 3+/- feet; DOT one foot above fire alarm
CMP 5 4	Temple Street	N/A	N/A	43	CMPCo.	DOT 6"above fire alarm
No #	Temple Street	N/A	N/A	43	Me DOT	POLE TO BE CHANGED OUT BY ME DOT CONTRACTOR - ADDITIONAL FIVE FEET
CMP 1 3 6	Appleton Street (north of Front Street)	12	2	43	N/A	Use existing fiber
CMP 2 1 5	Appleton Street (north of Front Street)	12	2	43	N/A	Use existing fiber
CMP 3 1 4	Appleton Street (north of Front Street)	12	2	43	N/A	Use existing fiber
CMP 4 1/4 3	Appleton Street (north of Front Street)	12	2	43	N/A	Use existing fiber
CMP 5 1/3 2	Appleton Street (north of Front Street)	no existing fiber		43	N/A	Use existing fiber

7/24/2010						
Existing Pole #	Street	Existing Fiber Pairs	Available Fiber Pairs For Use	Plan Sheet Number	Pole Ownership	Comments
CMP 1 11 1	Hathaway Street (north of Appleton Street)	12	2	43	N/A	Use existing fiber
CMP 2 2 2	Hathaway Street (north of Appleton Street)	12	2	43	N/A	Use existing fiber
no #	Between Hathaway & Fire Station	12	2	43	N/A	Use existing fiber
4	Between Hathaway & Fire Station	12	2	43	N/A	Use existing fiber
CMP 5 11 5	Between Hathaway & Fire Station	12	2	43	N/A	Use existing fiber
CMP 6 5D	Between Hathaway & Fire Station	12	2	43	N/A	Aerial To Fire Station

SPECIAL PROVISION
SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES
(Electronic Payroll Submission)

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

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

105.11 Federal Requirements Add the following as the third paragraph:

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

Waterville
PIN 17288.00
STP-1728 (800)X
September 09, 2010

SPECIAL PROVISION
SECTION 107
Control of Work

The Contractor shall notify the Engineer five (5) working days prior to the commencement of construction activities.

The work shall not commence until the traffic control plan has been approved. Once the Contractor begins work at this location the Contractor shall continue to work at that location until the project is complete, unless otherwise approved by the Engineer.

SPECIAL PROVISION

SECTION 107

TIME

(Scheduling of Work – Projected Payment Schedule)

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

SPECIAL PROVISION
SECTION 107
SCHEDULING OF WORK

Replace Section 107.4.2 with the following:

”107.4.2 Schedule of Work Required Within 21 Days of Contract Execution and before beginning any on-site activities, the Contractor shall provide the Department with its Schedule of Work. The Contractor shall plan the Work, including the activity of Subcontractors, vendors, and suppliers, such that all Work will be performed in Substantial Conformity with its Schedule of Work. The Schedule must include sufficient time for the Department to perform its functions as indicated in this Contract, including QA inspection and testing, approval of the Contractor's TCP, SEWPCP and QCP, and review of Working Drawings.

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

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

The Department will review the Schedule of Work and provide comments to the Contractor within 20 days of receipt of the schedule. The Contractor will make the requested changes to the schedule and issue the finalized version to the Department.”

Waterville
PIN 17288.00
STP-1728 (800)X
September 09, 2010

SPECIAL PROVISION
SECTION 107
TIME

The specified contract completion date for this contract is October 14, 2011.

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Quality Level Analysis)

502.01 Description In second sentence, replace "...METHOD B Small Quantity Product Verification..." with "...METHOD B Statistical Acceptance..."

502.05 Composition and Proportioning Delete Table 1 and replace with the following;

TABLE 1- Methods A, B, and C

Concrete CLASS	Compressive Strength (PSI)		Permeability (COULOMBS)		Entrained Air (%)		Notes
	LSL	USL	LSL	USL	LSL	USL	
S	2,900	N/A	N/A	N/A	6.0	8.5	1, 5
A	4,350	-----	-----	2,400	6.0	8.5	1,2,5,6
P	-----	-----	-----	-----	5 ½	7 ½	1,2,3,4,5
LP	5,075	-----	-----	2,000	6.0	8.5	1,2,5,6
Fill	2,900	N/A	N/A	N/A	N/A	N/A	6

502.503 Delete and replace with the following;

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

The Department will take Quality Assurance samples a minimum of once per subplot on a statistically random basis. Quality Assurance tests will include compressive strength, air content and permeability.

Concrete sampling for quality assurance tests will be taken at the discharge point, with pumped concrete sampling taken at the discharge end of the pump line.

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

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

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

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

TABLE 3

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

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

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

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

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

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

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

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

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

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

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

A. The pay factor for any property drops below 1.00 and the Contractor is taking no corrective action

B. The pay factor for any property is less than 0.90

C. The Contractor fails to follow the QC Plan”

502.18 Method of Measurement Under Section E. make the following change from “...Method A, and under Section 502.19...” to “...Method A, Section 502.0503- Quality Assurance Method B, and under Section 502.19...”

502.19 Basis of Payment Modify the first sentence of the seventh paragraph from “...accepted under Method A.” to “...accepted under Method A and Method B.”

502.191 Pay Adjustment for Compressive Strength Add the following as the second sentence to the first paragraph; “Pay factors (PF) for pay adjustments for compressive strength will be determined using the Quality Level Analysis as specified in Section 106.”

502.192 Pay Adjustment for Chloride Permeability Delete and replace with the following;

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

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

502.193 Pay Adjustment for Air Content Delete and replace with the following;

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

Add the following Section;

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

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

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

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

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

SPECIAL PROVISION
SECTION 626
Foundations

626.034 Concrete Foundations:

Pre-cast Foundations shall not be permitted. Concrete foundations shall be class LP and method "C".

626.021 Miscellaneous Material:

The 4th paragraph of this Section shall be amended with the following:

All concrete foundations shall be constructed with type LP concrete in accordance with the applicable requirements of Section 502 – Structural Concrete.

SPECIAL PROVISION
Section 634 and 643
Highway Lighting and Traffic Signals

Section 634.09 testing of highway lighting, the first sentence shall be amended as follows:

Before acceptance of the work, the contractor shall cause the following tests to be made on all lighting circuits, by a licensed electrician.

The tests do not need to be performed in the presence of the Resident, but the test results shall be recorded on the Highway Lighting Quality Control Check List and submitted to the Resident by the Contractor for acceptance. The form shall be signed by the licensed electrician certifying that the highway lighting meets the requirements of section 634.09.

Subsection 634.14, field testing of Traffic Signals, the first sentence shall be amended as follows:

Before acceptance of the work the contractor shall cause the following tests to be made on all traffic signal equipment and circuits, by a licensed electrician.

The tests do not need to be performed in the presence of the Resident, but the test results shall be recorded on the Traffic Signal Quality Control Check List and submitted to the Resident by the Contractor for acceptance. The form shall be signed by the licensed electrician certifying that the signal equipment and circuits meet the requirements of section 634.14.

Highway Lighting Quality Control Checklist

Subsection 634.09 Field Testing

Project Pin # _____

Location (if multiple services, please be specific)- _____

Grounding Electrode Resistance at service _____

Number of Circuits _____

Hand-Off-Auto Switch? _____

Circuit #1

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation) Leg #1 _____ Leg #2 _____

Operating Voltage at last pole _____

Circuit #2

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation) Leg #1 _____ Leg #2 _____

Operating Voltage at last pole _____

I, _____, certify that this work was done in accordance with subsection 643.14 and current NEC _____ guidelines, and when tested, was functioning as intended. (YEAR)

Electrician's Signature _____

Electrician's License # _____

Highway Lighting Quality Control Checklist

Subsection 634.09 Field Testing

Project Pin # _____

Location (if multiple services, please be specific)- _____

Grounding Electrode Resistance at service _____

Number of Circuits _____

Hand-Off-Auto Switch? _____

Circuit #3

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation) Leg #1 _____ Leg #2 _____

Operating Voltage at last pole _____

Circuit #4

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation) Leg #1 _____ Leg #2 _____

Operating Voltage at last pole _____

I, _____, certify that this work was done in accordance with subsection 643.14 and current NEC _____ guidelines, and when tested, was functioning as intended. (YEAR)

Electrician's Signature _____

Electrician's License # _____

Traffic Signal Quality Control Checklist

Subsection 643.14 Field Testing

Project Pin # _____

Grounding Electrode Resistance at service _____

ID tags on loop amps / detector cards? _____

Location _____

Street Approach	_____		
Loop #	_____	Resistance	_____
Phase #	_____	Meg to ground	_____
L,C, or R Lane	_____	Amount of bondo covering loop	_____
Pulse or Presence	_____		

Street Approach	_____		
Loop #	_____	Resistance	_____
Phase #	_____	Meg to ground	_____
L,C, or R Lane	_____	Amount of bondo covering loop	_____
Pulse or Presence	_____		

Street Approach	_____		
Loop #	_____	Resistance	_____
Phase #	_____	Meg to ground	_____
L,C, or R Lane	_____	Amount of bondo covering loop	_____
Pulse or Presence	_____		

I, _____, certify that this work was done in accordance with subsection 643.14 and current NEC _____ guidelines, and when tested, was functioning as intended. (YEAR)

Electrician's Signature _____

Electrician's License # _____

SPECIAL PROVISION
SECTION 643
Traffic Signals

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

643.0211 Additional Materials Materials shall also meet the requirements in the following Special Provision to Section of Division 700 - Materials:

Traffic Signal Control System	718.12
Emergency Vehicle Preemption System	718.13
Single Mode Fiber Optic Cable	718.14
Fiber Optic Splice Enclosure	718.15
Twelve (12) Position Fiber Optic Patch Panel	718.16
Ethernet Switch with Fiber Optic Interfaces	718.17
Messenger Wire	718.18
Pedestrian Crossing System	718.19

643.12 Painting All exterior parts of the listed equipment shall be delivered to the project finished as follows:

- Vehicular Signal Heads – Federal yellow housing with black doors.
- Pedestrian Signal Heads – All parts flat black.
- Signal Backplates – Black louvered with yellow retro-reflective strip.
- Controller Cabinets – Bare metal aluminum.
- Pedestal Posts and Bases – Bare metal aluminum.
- Mast Arm Poles (Bid Alternates) – Galvanized bare metal.

643.19 Basis of Payment Traffic signal modifications (Item 643.71) and new traffic signals approved as bid alternates (Item 643.80) will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, both new and reused, including, but not limited to steel poles, mast arms, controllers, vehicular and pedestrian signal heads with countdown timers, signal related messenger cables, cabinets, 12 position patch panels, Ethernet switches, astro-brackets, aerial disconnects, pedestrian push buttons, audible pedestrian signal indications (APS), wiring, signal cable, tethers, pole risers, LED lamps, signs, emergency vehicle preemption and all appurtenances and incidentals required for complete functioning installations and for furnishing all tools and labor necessary for completing the installations.

Traffic signal control system (Item 643.81) will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, including, but not limited to supervisory PC software installation and upgrades, training, and all appurtenances and incidentals required for a complete functioning installation. Spare equipment shall also be included within the contract lump sum price for the Traffic signal control system. See Special Provision 718.12 of Division 700 - Materials for more information. Payment for signal system start-up, system loading and acceptance testing shall be considered incidental to the traffic signal control system.

Video detection system (Item 643.83) will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, including, but not limited to video processing unit, video cameras, supervisory PC software, and all appurtenances and incidentals required for a complete functioning installation. It is noted that there are two types of video detection systems proposed in this project; full large camera video at 11 locations and (step down smaller “buckeye-type”) traffic presence sensors at 8 locations.

Payment will be made for each Loop Detector (Item 643.86) at locations to be determined at contract price, which will be full compensation for materials, labor, and equipment for each loop installed and fully operational.

The quantity for 12- and 72- strand interconnect wire (Item 643.90) will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and placing all materials between the termination points, within the controller cabinets, and within the splice enclosures at the locations shown on the plans including mounting hardware, splice enclosure appurtenances, performing and testing splices, and incidentals including fiber optic related messenger wire required for a complete functioning installation. See Special Provision 718.14 to 718.18 of Division 700 - Materials for more information. The cost for metal conduit risers on utility poles at splice enclosures shall be incidental to the cost of the interconnect wire for 12-strand cable.

Mast arm poles (Item 643.91), pedestal poles (Item 643.92), and strain poles (Item 643.93) will be paid for at the contract unit price each which payment shall be full compensation for furnishing and installing all materials, tools and labor necessary to erect and install the structures.

Dual purpose utility poles (wood for joint use signal strains and overhead utilities; Item 643.94) will be paid for at the contract unit price each which payment shall be full compensation for furnishing and installing all materials, tools and labor necessary to erect and guy anchor the poles.

The on-street light based fire pre-emptive system (see Special Provision 718.13) will be paid for under pay item 643.71 traffic signals, per associated intersection, which price will be full compensation for furnishing and installing all materials, appurtenances, and incidentals required for a complete functioning installation and for furnishing all tools and labor necessary for completing the installation. The emergency vehicle emitters for the pre-emption system will be paid for at the contract lump sum price through a non participating bid alternate, which price will be full compensation for furnishing and installing all materials (wiring and switch, and/or closure devices), appurtenances, and incidentals required for a complete and functioning installation and for furnishing all tools and labor necessary for completing the installation.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
643.715 Emergency Vehicle Pre-emptive Emitters	Each

Waterville
PIN 17288.00
STP-1728(800)X
September 24, 2010

SPECIAL PROVISION
SECTION 643
Traffic Signals

643.023 Design and Fabrication

The fatigue category specified for the mast arm design for mast arms over forty (40) feet in length, for this project, shall be Fatigue Category II.

SPECIAL PROVISION
SECTION 643
TRAFFIC SIGNALS

Under 643.023 Design and Fabrication, add the following to the end of the first paragraph:

Cantilevered signal support structures with mast arms shall be classified as Fatigue Category III with Fatigue Importance Factors (I_f) of 0.59 for Natural Wind Gusts and 0.68 for Truck-Induced Gusts unless specified otherwise on the contract plans.

If Category II is specified on the contract plans, the Fatigue Importance Factors (I_f) shall be 0.80 for Natural Wind Gusts and 0.84 for Truck-Induced Gusts. If Category I is specified on the contract plans, the Fatigue Importance Factors (I_f) shall be 1.0 for Natural Wind Gusts and 1.0 for Truck-Induced Gusts.

Designing for fatigue induced by Galloping or Vortex Shedding is not required for traffic signal structures with mast or bracket arms.

643.09 Service Connection, add the following after the last paragraph:

“All meter mounting devices shall be installed so that the meters will be upright (plumb). They shall be installed with the top of the meter not less than 1.2 M [48 in] nor more than 1.5 M [60 in] from the floor to the final grade. Exceptions to this height requirement will be made where special permission has been given to install group or modular metering, overall metering enclosures, or pole-mounted meters. Level grade shall be maintained for a minimum of 1.0 M [3 ft] in front of the meter enclosure to provide a safe working space. In order to meet this requirement on uneven terrain, as an option, the Contractor may install a pressure-treated wood platform.

For any non-residential (industrial or commercial) self-contained meter socket the bypass requirements are single phase, 100 or 150 amp, single handle lever operated.

The Contractor shall meet all requirements and regulations of Utility Companies when installing equipment on their poles and for the service connection. It is the responsibility of the Contractor to contact the appropriate Utility to determine their specific requirements.”

**SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Traffic Officers)**

Description. This work shall consist of furnishing uniformed police officer(s) in the following situations:

- 1.) As directed by the Resident

General

The Contractor shall make requests for uniformed police officers a minimum of 48 hours in advance.

Method of Measurement. Traffic officers will be measured for payment by the number of man-hours measured to the nearest $\frac{1}{4}$ hour.

Basis of Payment. The accepted quantity of traffic officers will be paid for at the contract unit price per man-hour with no additional payment for overtime. The contract unit price will be full compensation for transporting, equipping, supervising and the payment of traffic officers and police cruisers, and for all incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
652.381	Traffic Officers	Man-hour

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC

Approaches Approach signing shall include the following signs as 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
End Road Work

Work Area At each work site, signs and channelizing devices shall be used as directed by the Resident. Signs include:

Road Work xxxx¹
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.

The Contractor shall conduct their operations in such a manner that the roadway will not be restricted to one lane for more than 800 m [2,500 ft] at each work area. Where more than one work area restricts traffic to one lane operation, these work areas shall be separated by at least 1.6 km [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 suspension of paving until temporary markers are applied to all previously placed pavement.

¹ "Road Work Ahead" to be used in mobile operations and "Road Work xx ft" to be used in stationary operations as directed by the Resident.

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Traffic Control)

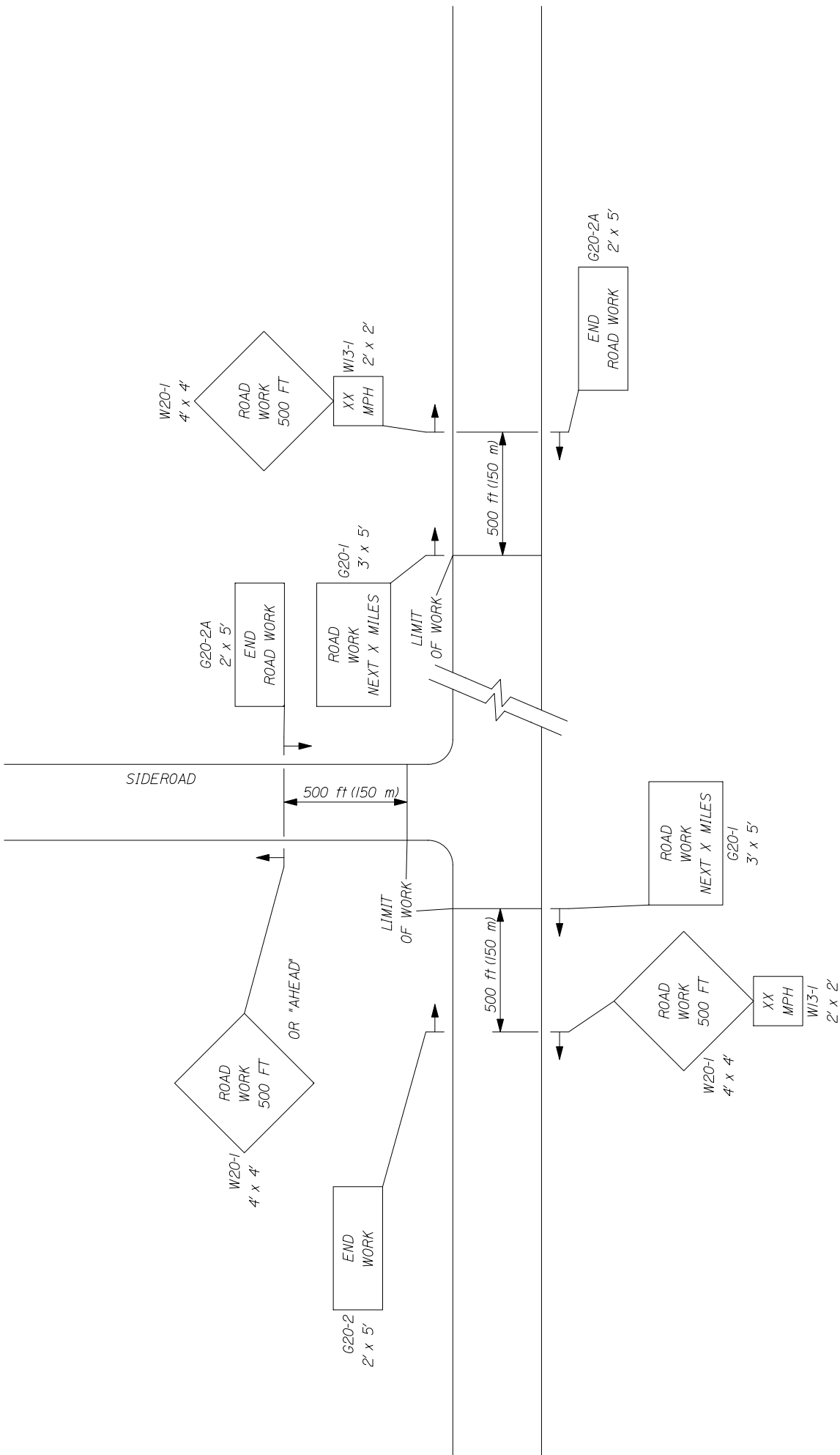
Failure by the contractor to follow the Contracts 652 Special Provisions and Standard Specification and/or The Manual on Uniform Traffic Control Devices (MUTCD) and/or The Contractors own Traffic Control Plan will result in a violation letter and result in a reduction in payment as shown in the schedule below. The Departments Resident or any other representative of The Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item. Any reduction in payment under this Special Provision will be in addition to forfeiting payment of maintenance of traffic control devices for that day.

ORIGINAL CONTRACT AMOUNT

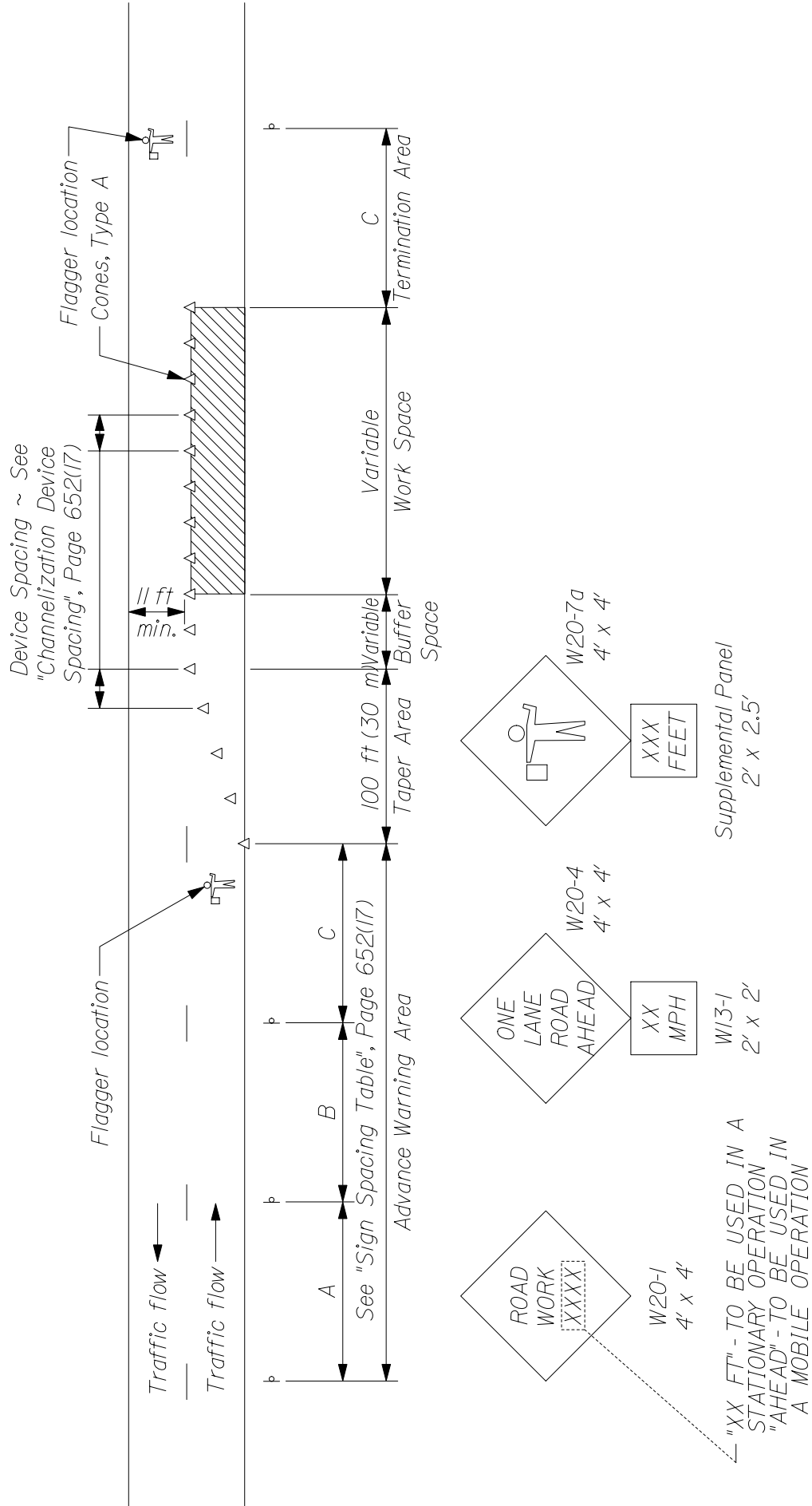
from	Up to and	Amount of Penalty
<u>More Than</u>	<u>Including</u>	<u>Damages per Violation</u>
\$0	\$100,000	\$250
\$100,000	\$300,000	\$500
\$300,000	\$500,000	\$750
\$500,000	\$1,000,000	\$1,500
\$1,000,000	\$2,000,000	\$2,500
\$2,000,000	\$4,000,000	\$5,000
\$4,000,000	and more	\$10,000

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
Construction Sign Sheeting Material

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



-- PROJECT APPROACH SIGNING --
TWO WAY TRAFFIC



TYPICAL APPLICATION: TWO - WAY, TWO LANE ROADWAY,
 CLOSING ONE LANE USING FLAGGERS

* Formulas for L are as follows:

For speed limits of 40 mph (60 km/h) or less:

$$L = \frac{WS^2}{60} \quad (L = \frac{WS^2}{155})$$

For speed limits of 45 mph (70 km/h) or greater:

$$L = WS \quad (L = \frac{WS}{1.6})$$

* Formulas for L are as follows:

A minimum of 5 channelization devices shall be used in the taper.

TYPE OF TAPER	TAPER LENGTH (L)*
Merging Taper	at least L
Shifting Taper	at least 0.5L
Shoulder Taper	at least 0.33L
One-Lane, Two-Way Traffic Taper	100 ft (30 m) maximum
Downstream Taper	100 ft (30 m) per lane

CHANNELIZATION DEVICE SPACING

The spacing of channelization devices shall not exceed a distance equal to 1.0 times the speed limit in mph when used for taper channelization, and a distance in feet of 2.0 times the speed limit in mph when used for tangent channelization.

GENERAL NOTES;

1. Final placement of signs and devices may be changed to fit field conditions as approved by the Resident.

Road Type	Distance Between Signs**		
	A	B	C
Urban 30 mph (50 km/h) or less	100 (30)	100 (30)	100 (30)
Urban 35 mph (55 km/h) and greater	350 (100)	350 (100)	350 (100)
Rural	500 (150)	500 (150)	500 (150)
Expressway / Urban Parkway	2,640 (800)	1,500 (450)	1000 (300)

**Distances are shown in feet (meters).

SUGGESTED BUFFER ZONE LENGTHS

Speed (mph)	Length (feet)	Speed (mph)	Length (feet)
20	115	40	325
25	155	45	360
30	200	50	425
35	250	55	495

**SPECIAL PROVISION
SECTION 656**

Temporary Soil Erosion and Water Pollution Control

Standard Specification 656 of the Standard Specifications is deleted and replaced by this Special Provision.

The following information and requirements will constitute the Soil Erosion and Water Pollution Control Plan for this Project. The soil erosion and water pollution control measures associated with this work are as follows:

All work shall be done in accordance with the latest revision of the Maine Department of Transportation Best Management Practices for Erosion and Sediment Control (a.k.a. Best Management Practices manual or BMP Manual). The latest version is dated February 2008 and is available at: <http://www.maine.gov/mdot/environmental-office-homepage/surface-water-resources.php>.

Procedures specified shall be according to the BMP Manual unless stated otherwise.

1. The on-site person responsible for implementation of this plan, shall be the Contractor's Superintendent or other supervisory employee (the "Environmental Coordinator") with the authority to immediately remedy any deficient controls and shall provide the Resident with their numbers (telephone number, cellular phone and pager numbers, if applicable) where the Environmental Coordinator can be reached 24 hours a day.
2. All areas where soil is disturbed shall be permanently mulched on a daily basis and seeded on a weekly basis (if seeded by hand, it shall be done on a daily basis). All previously mulched areas shall be maintained and re-mulched on a daily basis if bare areas develop until an acceptable growth of grass has been obtained.
3. All disturbed ditches shall receive erosion control blanket or stone rip rap, as required, prior to leaving the site each day.
4. Winter stabilization BMPs shall be applied in accordance with the MDOT BMP Manual between November 1 and April 15 or during frozen ground conditions.
5. If the Work includes the handling or storage of petroleum products or Hazardous Materials including the on site fueling of Equipment, the Resident must be provided with a Spill Prevention Control and Countermeasure Plan (SPCCP) plan. At a minimum, the SPCCP shall include:
 - The name and emergency response numbers (telephone number, cellular phone and pager numbers, if applicable) of the Contractor's representative responsible for spill prevention;
 - General description and location of (1) handling, transfer, storage, and containment facilities of such products or Materials ("activities and facilities") and (2) potential receptors of such products or Materials including oceans, lakes, ponds, rivers, streams, wetlands, and sand and gravel aquifers ("sensitive resources") including the distances between said activities and facilities and said sensitive resources;

SPECIAL PROVISION

SECTION 656

Temporary Soil Erosion and Water Pollution Control

- Description of preventative measures to be used to minimize the possibility of a spill including Equipment and/or Materials to be used to prevent discharges including absorbent Materials,
 - A contingency response plan to be implemented if a spill should occur including a list of emergency phone/pager numbers including the Contractor's representative, MDEP Spill Response, the Resident, and local police and fire authorities. For a related provision, see *Standard Specification, Section, 105.2.2 - Project Specific Emergency Planning*.
6. The Environmental Coordinator must inspect and maintain daily all controls for the duration of the project.
 7. If the Project Resident directs new soil disturbance that requires temporary erosion and sedimentation control, all permits shall be obtained by the MaineDOT and a full SEWPCP will be required and paid for as Extra Work.

Any costs related to this plan shall be considered incidental to the contract.

SPECIAL PROVISIONS
SECTION 718
Traffic Signals Material

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

718.12 Traffic Signal Control System The traffic signal control system shall meet the following minimum performance standards:

a. General The system must satisfy the following basic requirements:

1. The system must 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.
2. All communications between the master system and the local controllers shall comply with NTCIP protocol consistent with other similar MaineDOT projects (Augusta-13013.00; Maine Mall-10825.00; Presque Isle-15989.00; etc.). 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 standards. In addition, the list shall describe all manufacturer-specific NTCIP functions available. The system supplier shall also list the non-approved NTCIP 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 time tables for meeting NTCIP standards under review.
3. The system or system controllers shall be able to provide bus priority routing (for future expansion) through different signal groups. A written description of compliance with this requirement shall be included.
4. The system software supplied shall to the maximum extent possible be installed on a standard off-the-shelf PC computer running Windows 7, 2000, XP, or NT.
5. The system shall communicate directly to NEMA TS-2 Type 1 controllers (except the intersection in Winslow that will be NEMA TS-2 Type 2). Remote interface units are unacceptable. The system shall provide a continuous once per second or less monitoring of all controllers.
6. The system software shall communicate over a LAN connected within the City of Waterville City Hall. Additionally, remote system software shall be installed on PC computers in the offices in the Town of Winslow and the Maine Department of Transportation (MaineDOT) and any personnel assigned to operate the system on behalf of the City of Waterville, Town of Winslow, and/or

MaineDOT. The remote license for System Software used by the operating engineer assigned by MaineDOT shall be transferable to another engineer at their discretion. Communications to the remote computers will be by either a Wide Area Connection Network (WAN) and/or other compatible technology. The Contractor shall explain any differences in remote system access between WAN and other technology.

7. The system shall have various access levels settable on a per user/remote PC basis; for example read only, read and edit, and Administrator. The system shall serve on a regional basis and each jurisdiction shall have access to their portion of the controller database but not that of others.
8. Where applicable, the controller cabinet shall be supplied with dual output detectors capable of operation with any type of detection hardware currently available. The dual output detectors shall be capable of providing vehicular count data for system operation as well as presence/pulse vehicle data for local controller operation.
9. Each controller cabinet shall be supplied with full operational capabilities (load switches, flash transfer relays, and etc.) for eight vehicle phases, four pedestrian phases and/or four overlap phases (i.e., 12 position backpanels).
10. Video detectors shall provide feedback of color video images for display at the system computer at the City of Waterville and the remote workstations. Software shall be provided to allow modification of video detection zones and settings from the remote workstations.
11. The system shall be set up to remotely contact an individual or a group of users via email of user defined alarms. User defined alarms will be assigned during Training (see Section f).
12. The signal system must be able to be accessed remotely through a secure internet connection via web interface hardware and/or software.

b. System Requirements The system shall satisfy the following basic requirements with regards to system architecture and components:

1. System Architecture The overall architecture of the system shall be a client/server design based on distributed open architecture concepts.

Processing shall be distributed and “open” communications protocols for all interfaces.

Central System communications to local intersection controllers shall be NTCIP.

2. System Components The minimum principal system components shall be as follows:

- Central Office - central servers and workstation.
- System Software.
- Four remote workstations (VPN based if applicable).
- Central communications hardware and software.
- Up to 26 new or upgraded NEMA TS2 Type 1 intersection controllers and 21 cabinets. New NEMA TS2 Type 1 controllers shall support Ethernet communications from proposed fiber optic switch (see 718.17) to the controller to support IP based communications to/from proposed Central Office computerized signal system.
- 1 new or upgraded NEMA TS2 Type 2 intersection controller. NEMA TS2 Type 2 controller shall support Ethernet communications from proposed fiber optic switch (see 718.17) to the controller to support IP based communications to/from proposed Central Office computerized signal system.
- Full video detection (color) and software at 11 locations.
- Traffic presence sensors (color) at 8 locations.
- Matrix Stop Line Radar at 2 locations (plus up to 2 additional locations with approved bid alternate).
- Field communications hardware.
- Preemption equipment including detectors and confirmation strobes.

The Central System shall support the distributed client/server architecture via a local area network (LAN).

The central office shall consist of a personal computer (PC) as a client workstation and server with peripheral and communications equipment as well as all necessary operating and traffic control software.

Client workstations shall access servers that performs traffic management and real-time traffic control (traffic server), database management (database server), and communications (communications server) functions.

Server functions should reside on a separate server computer but may be combined if the proposed system architecture is normally provided in this manner.

An Uninterruptible Power Supply (UPS) shall be supplied to support the system. The UPS shall be capable of providing a minimum of 600 volt-amps for one hour. The UPS shall provide at least four outlets and one RJ-45 connection port. The UPS shall be connected to the rack Ethernet Switch via a patch cord. The UPS shall include maintenance software loaded on to the traffic control system server for monitoring the UPS status.

The system shall be implemented using standard, commercially available Personal Computer (PC) hardware.

The system manufacturer shall furnish all necessary cables and any other hardware necessary to install the central office equipment. The Supplier shall note if they prefer a direct LAN connection or a LAN bridge to accomplish this task. The signal system supplier shall provide and install any networking components between the Police Department LAN and the Server/workstation that may be necessary for a completed network. The signal system supplier shall also provide and install any networking components to establish a connection to remote workstations in the local agencies offices. Any additional furniture required, and/or additional power outlets shall be the responsibility of the City of Waterville. The central office computer shall consist of, as a minimum, the equipment described in the following sections.

3. Computing Platforms The central office software shall provide:

- Graphic Screens/Dynamic displays
- System printouts
- Database management
- Security/Access
- Directories
- Data backup (either tape or backup to other area of the network)
- Control modes
- Alarms and Paging

Window based graphical user interfaces (GUI) and geographically coded database components shall be an integral part of the system design. These elements shall form the basis of all user interactions with the system. They shall be integrated using industry standard Application Programming Interfaces (API) and protocols.

The system shall provide the ability to exchange files with ArcView and other common Geographic Information Systems (GIS), databases, Computer Aided Design (CAD), and Excel spreadsheet products.

The central office software shall be loaded into the specified personal computer system and operationally verified by the supplier. A menu driven installation program shall be provided for loading and verifying the software.

4. Central Communications At the central office, an Ethernet 10/100/1000baseTX switched local area network (LAN) shall support the distributed client/server architecture.

The LAN shall provide the capability of having multiple users and multiple workstations working simultaneously on a common database.

The central office software shall operate in a LAN configuration with a minimum of one database, one communications server computer and two workstation computers (VPN based access as applicable).

5. Remote Connections The system shall provide WAN and/or VPN remote connection to local jurisdiction traffic operations centers as well as other remote users. This shall include setup of security access to allow outside jurisdictions access to their signal databases, but not to those belonging to others.

The system shall support ten WAN or dial-up remote workstations.

6. Field Communications Communications from the central office server to the on-street traffic signal controllers shall be made through fiber optic interconnect cable. 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. Proposed fiber optic backbone cable shall be a 72 strand single mode cable. Fiber optic drop cables shall be 12 strand spliced to either the proposed 72 strand or existing City fiber optic backbone. All splices shall be water tight fusion splices. The fiber optic cable shall be attached to the existing utility poles where there is existing municipal conductors attached to the utility poles, while removing the existing municipal cable(s). This work shall be incidental to Item 643.90, Interconnect wire. Video detection cables shall be attached to the fiber optic interconnect through the Ethernet switch (see 718.17). The interconnect shall run underground where necessary using 2" conduit from the nearest existing utility pole. See 718.14 through 718.18 detailing requirements for 72 Strand Single Mode Fiber Optic Cable, Aerial Fiber Optic Splice Enclosures, Fiber Optic Patch Panels, Ethernet Switches with Fiber and Messenger Wire. Ethernet communications shall be connected from the fiber optic switch to the traffic signal controller to support IP-based communications.
7. Field Equipment The system shall support communications to NEMA TS-2 Type 1 and Type 2 intersection controllers. Intersection controllers shall be shelf-mounted units.

Intersection controllers shall be capable of communicating with the system, at a rate of once-per-second. If the Contractor proposes to reuse existing NEMA TS 2 controllers, the Supplier shall note how they will make any revisions to any existing NEMA TS 2 controller cabinets to remain in the completed project to accommodate new controllers operating on the system. Any reuse of existing TS 2 controllers shall require upgrade of the existing system software level to match that of the new installed controllers in the

system.

Intersection controllers shall be capable of operating under system control, operating under stand-alone time-based coordination, or operating in uncoordinated modes. Controllers shall support at least 64 timing plans, shall automatically adjust for the current daylight savings time calendar, and shall include a scheduler for holiday and special event programming. Daylight saving programming shall be capable of programming by the user.

Intersection controllers shall have a minimum of six railroad/emergency vehicle preemption inputs plus a minimum of four low priority bus preemption inputs.

Controllers shall provide a minimum of 64 vehicle detector inputs. Each input shall be assignable to any phase. Detector inputs shall also be programmable with respect to detector functions.

Controllers shall provide multiple detector “type” of operation. The Supplier shall describe the available detector types supported by their system and the degree of support provided.

8. Spare Equipment for Field Display and Detection Devices In support of the system inputs and outputs to field devices the following spare components shall be provided to the City of Waterville (and Town of Winslow as indicated):

- 1 – NEMA TS2 Type 1 Traffic Signal Controller.
- 1 – Wavetronix Matrix Radar Sensor or equal.
- 1 – Wavetronix Advance Sensor or equal.
- 1 – Full Video (Color) Detection Camera.
- 1 – Video Based (Color) Traffic Presence Sensor/Camera.
- 2 – Two channel / Four Output Rack Mount Data And Presence Video Detector Cards.
- 2 – Two channel Card Rack Mount Loop Detector Amplifiers.
- 1 – Environmentally Hardened Fiber Switch.
- 1 – Four Channel Preemption Phase Selector.
- 2 – Optical Preemption Receiver.
- 1 – Red Preemption Confirmation Strobe.
- 2 – APS Advisor Accessible Pedestrian Signal Pushbuttons.

c. Performance Requirements The system shall satisfy the following performance requirements with regards to size, expansion and communications:

1. Size The system shall be capable of managing at least 100 controllers. The system shall initially be sized to manage at least 24 controllers.

The local intersections shall transmit status information to the Central System at a rate of once-per-second or less. This shall include phase monitoring, controller mode status, and failure status flags.

Local intersections shall transmit detector volume and occupancy information on a cycle-by-cycle basis and optionally by user input on a 30 or 60 second basis.

Upon operator request, local parameter data shall be uploaded from individual controllers for review.

Measures of Effectiveness (MOE) summaries obtained from local system detectors shall be stored for historical reference in the central database.

2. Expansion The system architecture shall provide for modular expansion from 24 to 100 intersections and shall support as many as 250 system detectors.

The system shall be designed to enable expansion without redesign of any of the system components. Expansion shall require only the addition of off-the-shelf hardware components, software replication, and expanded database creation.

3. Communications The system shall be capable of controlling, receiving status and detector data from, and uploading and downloading local controller parameters to and from each intersection.

The Central System shall maintain a database of timings for local intersections including offsets, phases, intervals, and special functions to be performed.

The system shall provide timing parameter upload/download to NEMA TS-2 Type 1 and Type 2 controllers.

The system shall display signal phase changes, phase calls, pedestrian calls, phase next, real-time split information, preemption call status, special function status, and the actual time of day at the local intersection including time difference from the central clock on workstation graphical displays within three seconds of occurrence.

d. Functional Requirements The system shall satisfy the following functional requirements with regards to control modes, user interface, database management, time synchronization and monitoring and alarms:

1. Control Modes Controller modes shall be established based on operator command, time of day schedule, and equipment status monitoring.

Coordination shall be implemented using plan download and select, and local implementation.

Timing plan data shall be stored locally at the intersection and selected in the time of day, traffic-responsive, and manual modes based on central command.

All modes shall be continuously monitored for proper operation by the central computer.

The basic controller modes recognized by the central software shall include:

- Traffic-responsive (TR) - A controller shall be considered to be in the TR mode when it is operating on-line under central supervision and responding to system commands for plan selection based on the traffic-responsive algorithm.
- Time-of-Day (TOD) - a controller shall be considered to be in the TOD mode when the controller is operating in a pre-determined timing plan based on a time-of-day schedule stored at the Central System or the local controller. Controller time-of-day scheduling shall be performed based on schedule data stored locally at the controller and updated by periodic upload/download operations. In order to provide system backup operations, the TOD mode shall be operated from a local schedule downloaded to and maintained by the controller.
- Manual (MAN) - A controller shall be operating under the MAN mode when it is responding to system commands for plan selection issued from central control using manual override. From the perspective of the controller, this mode shall be identical to TR.
- Failed (FAIL) - A controller shall be deemed "Failed" when the controller fails one or more monitoring checks. Once failed, a controller shall be locked in the failed mode until the problem has been corrected and the failure state has been cleared by operator command or periodic retry commands from the schedule.
- Off-line (OFL) - A controller shall be in the OFL mode when not being commanded for on-line operation by the Central System. Communication of detector data and other status information to the Central System shall continue even when in OFL mode.
- Flash (FLH) - the system shall have the following FLH mode capabilities:
 - o Central Flash: individual intersections and sections shall be capable of being placed on flash by operator command or schedule entry.

- o Cabinet Flash: cabinet flash mode shall be indicated when a controller enters flash via manual selection at the cabinet.
- o Conflict Flash: conflict flash shall result for a tripped conflict monitor at the local intersection. Conflict flash shall be considered a failure by the Central System.
- o Police mode - The Police mode shall be indicated when an intersection is being controlled manually by police switch at the controller.

Flash mode status shall be logged for each entry or exit from flash. Except in the case of Conflict Flash, controllers shall be brought back on-line upon termination of the flash mode.

Up to 64 timing plans shall be supported at each local controller for selection. Each plan shall consist of a cycle length, offset, and phase split time. Timing plans shall also implement special functions, outputs, and phasing sequences.

The Central System shall permit the user to define sections (groups) of intersections that can be independently controlled. It shall also be possible for an intersection to be assigned to different groups by any command mode.

Control modes shall be provided to allow the system user the ability to control the system at multiple levels. A command issued to the entire system, zone, or section shall be applied to all controllers in the relevant group.

Commands manually entered from central such as change to free, flash, or the manual implementation of a timing plan shall be logged documenting who was logged on when the change was made, when it was done, and a comment field.

The system shall degrade in a controlled manner to allow continuation of a satisfactory level of coordinated operation should a Central System, communications hub, communications link, or intersection controller failure occur.

Traffic Responsive Operation (for future use)

- The system shall utilize algorithms developed by the US Department of Transportation for traffic-responsive operations.
- The system shall support up to 256 traffic-responsive plan selection tables. Each table shall be able to apply the selected plan to any number of signals, sections, and zones or to the entire system.

- Traffic responsive mode (TR) shall be controlled on a system wide, zone, section, or intersection basis.
- TR operation shall automatically select the timing plan for which traffic flow parameters have been defined that most closely match the detected pattern of traffic. The TR mode shall be selected on a command or a time-of-day basis.
- Plans eligible for TR operation shall be identified on a time of day basis.
- TR database shall identify the detectors that are to be used for TR plan selection for each section. Detector plan match data shall be stored with each timing plan. These data elements shall include volume and occupancy for each detector.
- Plans shall be selected for implementation using the following process sequence:
 - Process vehicle volumes and occupancies from all detectors.
 - Calculate weighted sum of volumes and occupancies.
 - Perform the calculation for all eligible plans.
 - Compare the weighted volumes and occupancies with the stored detector plan match data for each plan.
 - Select the plan with the closest match to the calculated value.
 - The selected timing plan shall be transmitted to the controllers, provided that the selected timing plan is available for all controllers in the applicable section or system.
 - The duration of each TR sampling period shall be operator selectable from one to fifteen minutes.
 - Traffic-responsive operation shall be capable of being overridden by either time-of-day/day-of-week or manual selection.
 - System detectors shall provide volume and occupancy data for archived storage and analysis purposes.
- Controllers shall be assigned to sections or zones for plan implementation of traffic responsive, time-of-day, and manual control. In addition, central flash shall be commanded on a section-wide basis.
- All sections operating on a common cycle length shall be automatically synchronized by virtue of the fact that they are referenced to the same Central System clock.
- It shall be possible to select On-line or Off-line operations by operator command on a system, section, local intersection or level.
- System detector data shall provide the basis for all traffic-responsive plan selections by the system.

Split Monitor

- The software shall include the capability to display, from stored data, a split monitor report. This report shall be utilized in optimizing system operation on an intersection-by-intersection basis.
- The split monitor report shall consist of an on line report, updated every cycle(s) or sample time set by the user, that gives the operator a comparison of actual programmed split times, in seconds, versus the actual split times utilized by each phase, in seconds, during the sample time.
- The split monitor report shall show, as a minimum, the following:
 - o Location number
 - o Time and date report was started
 - o Programmed split times for each phase (seconds)
 - o Pattern in effect
 - o Actual split time used per phase, per cycle (seconds)
- Split monitor reports shall have the ability to store and retrieve the required information necessary to produce the Split Monitor report at a later date from the system stored data.

Active Time-Space Diagram

- The system shall provide a real-time dynamic display showing all intersections within a user selected signal group.
- The display shall also graphically show:
 - o The relative position of each intersection in the signal group as compared to the adjacent intersections
 - o The signal status of each signal (red or green)
 - o The system green band moving along the display updating at a minimum of once per second from real time field data
 - o The impact of early main street green returns on the system

Schedules

- The system shall have the capability of scheduling any system command. The scheduling capability shall include time-of-day/day-of-week/week-of-year schedules with a one-minute resolution.
- The system shall automatically assign the schedule for each day to its corresponding day of week. In addition, a calendar scheduler shall be

used to define which day of the week or generic holiday schedule will be used in lieu of the normal day of the week schedule for a particular day of the year.

- The system scheduling capability shall include two types of schedules: permanent (repeating) schedules and temporary (one time event) schedules.
 - All system functions executed by the system shall be recorded in the system log. The system log shall identify the source of the executed function as initiated by the scheduler or an interactive user, including identification of whether it represents a permanent or temporarily scheduled function.
 - Permanent schedules shall contain the schedule of events for each day of the week and several generic holidays. Functions shall be stored in the permanent schedule and remain unchanged after they have been executed.
 - Temporary schedules shall provide the capability of scheduling one-time events in addition to the events scheduled for the current day. Commands stored in the temporary schedule shall be deleted following their execution. A one-time event shall be scheduled to execute any time in the future.
2. User Interface All traffic system reports, graphic displays, and dialogues shall be functions of the user interface software running on individual workstations.

Each workstation shall access data as needed from the traffic control and database servers.

Programming Standards

- All workstation user interface functions shall be implemented using window-based graphical user interface (GUI) concepts conforming to Microsoft Windows Standards.
- The GUI shall use a Microsoft Windows platform or approved equivalent to manage the window's workspace environment.

Object Library

- The user interface shall include an object library that contains dynamic icon objects for system control and monitoring devices.

- These objects shall include as a minimum traffic signals, pedestrian signals, and loop detectors/detection zones.
- The library shall also include an interactive editor for placing these objects within dynamic graphic screens.
- The system shall allow the user to link dynamic graphics objects directly to system database elements without programming or recompilation.
- The library shall also include dynamic objects allowing the user to define directional roadway links using a simple vector drawing facility. Proper representation of directional status attributes shall be available at all zoom levels.

Graphical User Interface (GUI)

- Operators accessing the system will have security access based on their login password as assigned by the system administrator.
- The GUI shall use icons and vectors, in conjunction with a pointing device (e.g. a mouse or track ball) to interact with and allow an operator to enter decisions, draw graphics, issue commands, and receive information from the system.
- The GUI shall include an intersection/link base map with windowed table reports and management input windows.
- The GUI shall provide access to all monitoring and control options from a single point. As a result, all operator actions shall be immediately visible as graphical status changes and on screen display windows.
- The GUI shall provide interactive mechanisms to assist in creating, editing, and modifying dynamic graphic screens that are linked to system dynamic elements. These dynamic condition maps shall provide a simple mechanism for system navigation, presentation of status, and selections within the user interface.
- The user interface available at each workstation shall simultaneously support the following operations by the operator:
 - o Generate and display in real-time intersection status screens, section level maps, and system level maps.
 - o Issue manual commands to the intersection controllers.
 - o Provide intersection controller database management as follows:
 - o Upload database from controllers.
 - o Edit database and save on disk.
 - o Download database to controllers.
 - o Compare field and central databases.

- o Retrieve detector logs and event logs from local controllers.
- o Print event reports from system SQL database.
- o Print or plot system detector data from system SQL database.
- o Provide an interface to traffic analysis programs.

Graphical Displays

- The operator shall assess system functions using map-based graphical displays.
- Graphical icons shall be used on the graphical displays to represent system devices.
- The icons shall provide access to traffic control data (signal timing, geometrics, etc.), real-time data (intersection, link status, etc.), the database, and graphical image files.
- Graphical symbols (icons) shall be employed to activate common functions. Graphics shall be used to provide added capabilities for portraying system status and soliciting input from operators.
- The graphic map shall act as a system selection palate enabling the operator to make a selection by pointing to a particular system object (i.e. controller, changeable message sign, etc.). When that system object is selected, a more detailed status window shall be displayed.
- The GUI shall provide interactive mechanisms to assist in creating, editing, and modifying dynamic graphic screens that are linked to system dynamic elements.
- These dynamic condition maps shall provide a simple mechanism for system navigation, presentation of status, and selections within the user interface. Multiple traffic condition views shall be supported simultaneously on the desktop including multiple detailed interactive views.
- The user shall be able to create a new window by clicking the appropriate button in the toolbar. Traffic condition graphics displays shall contain multiple levels of background images.
- Backgrounds shall be capable of containing commercial vector images such as NavTech, Etak, Tiger and TIFF geographically accurate map scanned images. These images shall be compatible with standard graphical raster or vector image file types, common paint/drawing programs, and other packages that allow export of drawings in vector and/or bitmap form. These images shall be used as the display layers of real-time graphics displays.

- Zooming and scrolling and automatic control layers of graphic presentation shall be included with the system.

Dynamic Graphics Displays

- Workstations with high-resolution graphics (minimum 1024 x 768, with 256 color) capability and color monitors shall be used for real-time graphical displays. In addition to being displayed on workstation monitors, the real-time graphics shall be capable of being displayed on graphic projection screens and wall maps.
- Graphics displays shall be provided at the system, section, and intersection levels.
- The system level map shall provide a dynamic display of the entire control area including expressways, major arterial roads, railroads, jurisdiction boundaries, and bodies of water. Intersections and roadway links shall change color dynamically based on user definable status functions. The basis of this map may be aerial overlays available through MaineDOT.
- The Contractor shall produce computer graphic representations of the nine intersections for the purposes of monitoring system status. The Contractor shall also load them into the Central computer station as applicable and included in this project. When instructed by the computer operator, the computer graphic maps shall be linked to on-street or virtual masters or local controller units, and allow for a dynamic representation of system status for the operator. Project plans may be used as the paper base for the maps.
- At a minimum, the maps shall contain the following information:

Intersection Maps:

- Graphical representation of the intersection (scaled maps are not required)
- Intersection ID
- Municipality (City of Waterville or Town of Winslow)
- Street Names
- System Name
- North Arrow
- Lane Configuration
- Real Time Signal Display Status; Vehicle and Pedestrian
- Vehicle and System Detector Per Phase Call Status
- System Parameters Status (Cycle, Split, Offset)
- Intersection Operational Status (Flash, Coordinated, Free, On-line, Preemption)

- Controller Cabinet Location (static)
- Time/Date.

System Map:

- Graphical representation of the system showing all intersections within the Subsystem (scaled maps are not required)
 - Municipality (City of Waterville or Town of Winslow)
 - Street Names
 - Subsystem Number, if applicable
 - North Arrow
 - Coordinated Phase Green at Each Location
 - System Parameters Status (Cycle, Split, Offset)
 - System Detector Status
 - Intersection Operational Status (Flash, Coordinated, Free, On-line, Preemption).
- Intersection status screens shall provide an exploded dynamic display of local intersection geometries showing, via color code and icon symbols, the status of each item of field hardware (controllers, detectors, on-line controller status, etc.). The Intersection Status display shall also display text fields providing current status data.
 - All text data shall be displayed in common traffic engineering terms. Limited use of mnemonics is acceptable; however, the need for reference guides and manuals shall not be acceptable. All information shall be shown simultaneously and continuously displayed until canceled by the operator. Displays shall not affect system operation. All displays shall have a maximum three-second resolution.
 - Toolbar
 - The workspace session window shall display a toolbar.
 - The toolbar shall contain buttons for opening windows, setting session parameters, or invoking any other action or activity that affects the entire session.
 - The main workspace shall contain an action bar comprising menu selections for operator commands and actions.
 - Windows may also contain action bars and controls. Actions supported by and pertaining to a single window shall be invoked through that window's action bar menu or controls internal to the window itself.
 - All action bar menus shall support a set of keyboard equivalent accelerators and arrow key navigation of the menu bar and individual pull-down menus.

- o Menu and dialogue box options that are not appropriate in a particular context or not available to a given user shall be “grayed-out” and unavailable for selection.
- o It shall be possible to select an object by entering its identification number on a data entry line on the GUI.

3. Data Base Management Database management shall allow programming of the intersection controller databases.

Each intersection controller shall have separate database programming pages.

These pages shall contain all the programming options unique to each intersection.

All programming entries shall primarily consist of numerical values, YES/NO or ON/OFF entries.

During program entry, the new data shall overwrite the old data. If the data is out of range or conflicts with minimum (or maximum) MUTCD listed values, changes shall not be permitted and either an error message on the display or a warning tone shall alert the user.

Common traffic engineering terminology shall be used throughout the programming displays.

Display organization and data entry approach shall allow system operators to operate the central office software without using reference cards or manuals.

Mnemonic usage shall be minimized and limited to recognized traffic engineering terms.

Upload/Download

- All devices shall use upload/download techniques for database programming.
- Upload/download shall transfer the entire programmable database from/to the selected intersection device.
- All upload/download data shall use block transfer techniques and be verified by block check-sum or equivalent.

- Non-verified data shall cause termination of the upload/download with no data transfer taking place. It shall not be possible to load erroneous interval and configuration information to the local controllers.
 - Upload techniques shall not cause the section or intersection controller to go offline. Traffic control operation shall remain intact in all respects.
 - Following an upload, it shall be possible to compare the database of an intersection controller to the database on file.
 - The compare function shall identify any differences between uploaded and file data.
4. Time Synchronization The system shall get clock updates from a manufacturer supplied GPS receiver or WWV clock for time synchronization at least once every 24 hours.
5. Monitoring and Alarms The system shall provide alarms at designated workstations. All alarms shall be recorded in the event log.

Significant alarms shall be brought to the immediate attention of users via a “heads-up” alarm feature. Heads-up alarms shall be provided as pop-up alerts on workstations.

Each alert shall contain a message that notifies a user of the alarm condition. For example, if a status message from a controller is returned that indicates a critical controller event, such as cabinet flash, a pop-up window will be displayed on the user’s workstation notifying them of the condition.

The user shall be required to acknowledge receipt of the alarm message by pressing an “OK” button displayed in the dialog box.

e. Technical Support Telephone technical support shall be provided free for the life of the system. Support must be available Monday through Friday, during normal business hours of the manufacturer. Local technical support must be available for a period of three months after the “System Startup” project phase is completed. The presence of existing local support will be a factor which shall be considered in system selection.

f. Training The Contractor shall provide one-week hands-on training classes to be held in or near the City of Waterville, which covers general operations and maintenance of the traffic signal system. The training shall be designed for the primary local jurisdiction personnel and MaineDOT (operators and technicians) who use and maintain the system. The Contractor should budget for up to 12 attendees.

Training documentation shall include operating manuals for all system equipment and components (see Section h, Manuals/Documentation, below for requirements). Documentation shall also be provided, explaining the operation of all system features. A quick start guide shall be provided which covers the operations of the basic system features for occasional users. Hard copies of all handouts used during training shall be distributed. The Supplier is expected to present clear and organized instruction. The initial training shall consist minimally of the following:

- System operation, system performance analysis, and revision of system operating parameters based on the analysis
- Familiarity with construction details of central office equipment (disconnect locations, cable routing etc.).
- How to enter commands.
- Operation of all devices.
- Generation and editing of intersection controllers.
- Uploading/downloading of intersection controller databases.
- Procedure for enabling dynamic displays.
- Explanation of the communication system.
- Basic troubleshooting procedures to isolate malfunctions.
- A course syllabus for each proposed training day for approval by the Engineer at least 7 business days prior to the scheduled course. Each syllabus shall include a description of the topics covered, the level of detail to be covered in the class, and the number of teaching hours included in the class. The Supplier shall also supply a list of equipment, software, and manuals to be provided for the training at least 5 business days prior to the scheduled course. All training classes shall make use of the system data collected during the Start-up Phase of the project.

g. Start-up and System Loading The system supplier shall initiate complete system operation from the controller and system timing schedules shown on the plans or data supplied by the Engineer and shall initiate detectors and system detector logging operation at the direction of the Engineer. After the supplier has initiated system operation and detector logging, 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 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 the Engineer that the system is ready for the Start-up Phase. Within 7 days of completion of the initial testing period, and notification to the Engineer (Vanasse Hangen Brustlin, Inc.), the Engineer, with on-site assistance from the supplier's engineer, will begin loading the system for full coordinated operations. After the coordination has been initiated and run for approximately two weeks, the Engineer shall evaluate system operation and make adjustments as necessary. The Supplier's engineer does not need to be on-site during this period, but must be available by telephone or by demand on-site as needed. Any major system malfunctions encountered during this testing period shall be corrected by the supplier, and the test restarted. During this period 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 coordinated testing period the system will be deemed ready for final acceptance testing as described in section i, Acceptance Testing.

h. Manuals / Documentation Operating manuals shall be supplied for all equipment and components of the system. Hard copies of all training handouts and operational manuals shall also be supplied. 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:

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

The controller cabinet shall contain a door sticker with laminated chart showing intersection layout and detection information. A print of the as-built intersection plan would be acceptable. The cabinet shall additionally be provided with the following documentation:

- Operating manuals.
- Box prints.
- Laptop interface cable.

i. Acceptance Testing Upon completion of the 14-day coordination testing period, the Engineer shall evaluate system operation. It is expected that the complete system shall operate fully functional at central control and at the remote locations for a period of 30 consecutive days without malfunction. Minor malfunctions of inoperability not the fault of the Supplier, as judged by the Engineer, are not included in the 30-day period. If the system fails to operate as intended by this specification or the Supplier's claims, the malfunction shall be corrected by the Supplier 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 the Engineer's reasonable satisfaction that the hardware and licensed software function in accordance with the specifications, requirements, through-puts, functionalities, performance criteria or other benefits stated in documentation, promotional materials, proposals, and/or demonstrations given to the MaineDOT and the City of Waterville.

j. System Maintenance 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 the City of Waterville.

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 the City of Waterville at no additional cost during the warranty period.

Hardware equipment shall be warranted for three years, effective when the proposed system has been accepted in writing by the City of Waterville.

Third party hardware and software licenses and warranties shall be passed to the City of Waterville.

k. License Agreement The supplier of the central office software and other associated software shall provide a software license to the City of Waterville for use at the Central Computer and on up to three remote workstations. 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 the City of Waterville.

The supplier shall carry out no work that will infringe on the licensing of third party hardware and software.

718.13 Emergency Vehicle Preemption System The emergency vehicle preemption systems shall be installed in the same cabinets as the controllers.

The emergency vehicle preemption control systems shall consist of a data-encoded phase selector to be installed within the traffic control cabinets. 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 controllers initiating preemption operations as shown on the plans. The phase selectors shall have full ID and logging capabilities and be a rack-mounted plug-in four channel, dual priority devices. The phase selectors shall plug into shelf-mounted single card slot chasses. Programming the phase selectors shall be via a PC-based computer utilizing unit specific software. One copy of software, shall be supplied and licensed to the City of Waterville. 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 in each cabinet, as shown in the Plans, such that the phase selector logs and configuration can be remotely accessed through the communications system. The Contractor shall supply and install any required converters, such as device servers or other devices, to interface the phase selector to the Ethernet switch in each cabinet. The Contractor shall also supply any required cables. The Contractor is notified that the City of Waterville currently has light based and hardwire (pushbuttons located at Central Fire Station) emergency preemption system. The City is expanding to a Citywide light based emergency vehicle preemption with remote access to phase selectors provided through software applications. Emergency vehicle preemption installed under this project shall be functionally compatible with this new system. Similar functionality shall be provided for the intersection in the Town of Winslow.

The 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 City of Waterville and/or Town of Winslow Fire Department to properly detect preemption calls from approaching vehicles.

718.14 Single Mode Fiber Optic Cable This item of work shall conform to this specification, and with IMSA General Specification 70 for Single and Multi-Mode Fiber Optic Cable. This item shall consist of furnishing and installing 72 strand, single mode fiber optic cable, necessary splices, and appurtenances. This item shall also consist of furnishing and installing 12 strand, single mode fiber optic drop cable, necessary splices, and appurtenances.

MATERIALS: The materials for this work shall conform to the following requirements:

1. **General Requirements:** All of the fiber optic cable for this project shall be from the same manufacturer and shall be either 72 strand, single-mode or 12 strand, single-mode. The Fiber Optic Cable shall meet the following requirements:
 - 1.1. The fiber optic cable shall be designed for both aerial and underground installations, and shall be recommended for these applications by the manufacturer.
 - 1.2. The fiber optic cable shall operate over a temperature range of -40 to 74 degrees C at a relative humidity of 10% to 90% condensing.
 - 1.3. All fiber optic strand materials shall be non-conductive to electricity.
 - 1.4. The fiber optic cable shall meet or exceed the following performance characteristics when tested in accordance with the following fiber optic test procedures (FOTP) from EIA/TIA-455-B Series standards:
 - 1.4.1. When tested in accordance with FOTP-3, "Procedure to Measure Temperature Cycling Effects on Optical Fibers, Optical Cable, and Other Passive Fiber Optic Components," the change in attenuation at extreme operational temperatures (-40⁰C and +70⁰C) shall not exceed 0.2 dB/km at 1550 nm.
 - 1.4.2. When tested in accordance with FOTP-25, "Repeated Impact Testing of Fiber Optic Cables and Cable Assemblies," the cable shall withstand 25 impact cycles. The change in attenuation shall not exceed 0.2 dB at 1550 nm.
 - 1.4.3. When tested in accordance with FOTP-33, "Fiber Optic Cable Tensile Loading and Bending Test," using a maximum mandrel and sheave diameter of 560 mm, the cable shall withstand a tensile load of 2700 N (608 lbs). The change in attenuation shall not exceed 0.2 dB during loading and 0.1 dB after loading at 1550 nm.
 - 1.4.4. When tested in accordance with FOTP-37, "Low or High Temperature Bend Test for Fiber Optic Cable", the cable shall withstand four full turns around a mandrel of < 10 times the cable diameter for non-armored cables and < 20 times the cable diameter for armored cables after conditioning for four hours at test temperatures of -30⁰C and +60⁰C. Neither the inner

or outer surfaces of the jacket shall exhibit visible cracks, splits, tears or other openings. Optical continuity shall be maintained throughout the test.

- 1.4.5. When tested in accordance with FOTP-41, "Compressive Loading Resistance of Fiber Optic Cables," the cable shall withstand a minimum compressive load of 440 N/cm (250 lbf/in) for armored cables and 220 N/cm (125 lbf/in) for non-armored cables applied uniformly over the length of the sample. The load shall be applied at the rate of 3 mm to 20 mm per minute and maintained for ten minutes. The change in attenuation shall not exceed 0.4 dB during loading and 0.2 dB after loading at 1550 nm.
- 1.4.6. When tested in accordance with FOTP-81, "Compound Flow (Drip) Test for Filled Fiber Optic Cable", the cable shall exhibit no flow (drip or leak) of filling and/or flooding material at 80°C.
- 1.4.7. When tested in accordance with FOTP-85, "Fiber Optic Cable Twist Test," a length of cable no greater than 4 meters shall withstand 10 cycles of mechanical twisting. The change in attenuation shall not exceed 0.1 dB at 1550 nm.
- 1.4.8. When tested in accordance with FOTP-104, "Fiber Optic Cable Cyclic Flexing Test," the cable shall withstand 25 mechanical flexing cycles around a sheave diameter not greater than 20 times the cable diameter. The change in attenuation shall not exceed 0.1 dB at 1550 nm.

2. Cable Construction: The cable shall be composed of the following elements:

- 2.1. Anti-buckling central member which shall prevent the cable from buckling and stretching. The central member shall consist of a dielectric glass reinforced plastic rod. The central member expansion and contraction characteristics shall be similar to the optical fibers and the fiber tubes.
- 2.2. Loose Buffered Tubes in which multiple fibers strands are placed inside. Each Buffer Tube shall meet the following requirements:
 - 2.2.1. Allowed buffered tube diameters shall be 3.0 mm or 1.9mm.
 - 2.2.2. The number of fibers inside a Buffer Tube shall not exceed 12 strands.
 - 2.2.3. Buffer Tube material shall prevent the fiber from adhering to the inside of the tube.
 - 2.2.4. Buffer Tubes shall be colored in accordance with TIA/EIA-598-A, "Color Coding of Optical Fiber Cables".
 - 2.2.5. Fiber Optic strands shall be placed loosely inside the Buffer Tube to allow for fiber expansion and contraction due to temperature changes.

- 2.2.6. Buffer Tube shall be filled with a water blocking gel meeting the following requirements:
 - 2.2.6.1. Filling compound in the buffer tubes shall be a homogeneous hydrocarbon based gel with anti-oxidant additives.
 - 2.2.6.2. The filling shall prevent water intrusion, be nontoxic, and non-irritant to skin contact.
 - 2.2.6.3. The filling shall be non-nutritive to fungus.
 - 2.2.6.4. The filling shall be electrically non-conductive and readily removable with conventional non-toxic solvents.
- 2.3. Fiber Optic Strands, which shall consist of a doped-glass cylindrical core, surrounded by a concentric cladding. An acrylate coating shall cover the fiber to add protection and color. Each fiber optic strand shall meet the following requirements:
 - 2.3.1. Core diameter shall be $8.3 \mu\text{m} \pm 0.5\mu\text{m}$.
 - 2.3.2. Cladding diameter shall be $125 \mu\text{m} \pm 1.0 \mu\text{m}$.
 - 2.3.3. Core to Cladding offset shall be less than $0.8 \mu\text{m}$.
 - 2.3.4. Cladding Non-Circularity shall be less than 1.0 %.
 - 2.3.5. Total coating diameter shall be $245 \pm 10 \mu\text{m}$ and shall be mechanically strippable.
 - 2.3.6. Coating color shall be in accordance with TIA/EIA-598-A, "Optical Cable Color Coding".
 - 2.3.7. No point discontinuity along the fiber shall have attenuation greater than 0.10 dB at either 1310 or 1550 nm.
 - 2.3.8. Attenuation at the Water Peak shall not exceed 2.1 dB/km at $1383 \pm 3 \text{ nm}$.
 - 2.3.9. Mode-Field Diameter shall be $9.30 \pm 0.50 \mu\text{m}$ at 1310 nm, and $10.5 \pm 1.0 \mu\text{m}$ at 1550 nm.
 - 2.3.10. Zero Dispersion Wavelength shall be between 1301.5 nm and 1321.5 nm.
 - 2.3.11. Zero Dispersion Slope shall be less than $0.092 \text{ ps}/(\text{nm}^2 * \text{km})$.

- 2.3.12. Cable loss shall not exceed 0.4dB/Km when measured at a light wavelength of 1310nm.
- 2.3.13. Cable loss shall not exceed 0.3dB/Km when measured at a light wavelength of 1550nm.
- 2.4. The cable casing shall be composed of a minimum of two protective layers. Each layer requirements are as follows:
 - 2.4.1. The first casing layer shall be composed of high tensile strength dielectric yarns helically stranded evenly around the cable core.
 - 2.4.2. The second and outer most layer shall be a polyethylene jacket. The jacket shall meet the following requirements:
 - 2.4.2.1. The jacket shall be black medium or high density polyethylene in accordance with ASTM D1248, Type II or Type III, Class C, Category 3, 4, or 5 and contain a suitable antioxidant.
 - 2.4.2.2. The jacket shall contain carbon black to provide ultraviolet light protection.
 - 2.4.2.3. The jacket shall have a minimum thickness of 1.4 mm.
 - 2.4.2.4. The jacket shall have permanent affixed markings every two feet or every one meter along the cable. These markings shall contain at a minimum the cable length (in feet if markings appear every two feet or in meters if markings appear every one meter) manufacturer's name, date of manufacturer, and fiber count.
 - 2.4.3. A ripcord shall be provided between the first and second layer.
 - 2.4.4. All casing layers shall be non-nutritive to fungus.
3. Construction Methods: The Contractor shall meet the following construction and installation procedure when installing the fiber optic cable:
 - 3.1. Shipping Reels: The fiber optic cable shall be shipped in reels that meet the following requirements:
 - 3.1.1. The reels shall be designed to prevent damage to the cable during shipment and installation.
 - 3.1.2. Each reel shall contain an identification tag with the following minimum information:

- 3.1.2.1.Date of Manufacture
- 3.1.2.2.Manufacturer's Cable Code
- 3.1.2.3.Fiber Count
- 3.1.2.4.Length of Cable
- 3.1.2.5.Beginning and End length markings

- 3.1.3. Both ends of the cable shall be accessible to provide access for testing.
- 3.1.4. The cable ends shall be securely fastened and shall not protrude beyond any portion of the reel in an unprotected manner to prevent the cable from becoming loose in transport.
- 3.1.5. Cables ends shall be sealed to prevent the escape of the water blocking material and entry of moisture during shipping, handling, storage, and installation.

3.2. Testing and Certification:

- 3.2.1. The personnel involved and responsible for the installation, splicing, and termination of the cable shall meet the following minimum requirements:
 - 3.2.1.1.Documented proof of three (3) years experience with the installation of single-mode fiber optic cable, including splicing, termination, and testing.
 - 3.2.1.2.The installation experience should be applicable to the work required for this project and shall include projects of similar or larger scope, providing mid-span access points and fusion splicing in field conditions.
 - 3.2.1.3.The Contractor shall provide the names and phone numbers of references to the Engineer.
 - 3.2.1.4.At least thirty (30) days prior to the installation of the fiber optic cable, the Contractor shall submit to the Engineer, documentation outlining the information above. Permission for the Engineer to contact the owner must be authorized prior to submitting the information.
- 3.2.2. The Contractor shall provide the Engineer with four (4) copies of the cable manufacturer's recommendations and requirements, listed below, for each fiber optic cable type and size:

- 3.2.2.1. A list of the cable manufacturer's approved pulling lubricants for use on the cable. No other lubricants will be permitted.
- 3.2.2.2. The maximum pulling tensions of the cable, which shall specify both pulling from the cable's strength member(s) and for pulling from the outer jacket.
- 3.2.2.3. The minimum bending radius of the cable, which shall specify a radius for both the installation and for long-term installation.
- 3.2.3. Prior to shipping, the manufacturer of the cable shall conduct fiber loss tests on all strands on the entire length of cable to be delivered for this project. These tests shall be conducted at both 1310 nm and 1550 nm light wavelengths. Four (4) manufacturer certified copies of the fiber loss tests shall be delivered with the cable for review by the Engineer.
- 3.2.4. Upon delivery of the cable to the project site, the Contractor shall conduct fiber loss tests on all strands on the entire length of cable in the presence of the Engineer. These tests shall be conducted at both 1310 nm and 1550 nm light wavelengths. The Contractor shall provide the Engineer with four (4) certified copies of the loss test results for comparison with the tests made on the cable prior to delivery.
- 3.2.5. After installation of the cable is complete, the Contractor shall conduct fiber loss tests on all strands on the entire length of cable demonstrating that all requirements of this specification are met. These tests shall be conducted at both 1310 nm and 1550 nm light wavelengths.
- 3.2.6. All testing shall be performed with an Optical Time Domain Reflectometer (OTDR), as follows:
 - 3.2.6.1. Testing shall be conducted on all components of the fiber optic cable plant, including fiber cables, splices, and patch panels.
 - 3.2.6.2. The OTDR used shall include a floppy disk drive for storage of all fiber optic cable signatures. Signatures of all cables tested shall be stored on floppy disk and supplied by the Contractor. The Contractor shall supply OTDR emulation software manufactured by the OTDR manufacturer which is capable of reading the stored signatures from the floppy disk(s) and performing all measurement and analysis on the stored signatures as if the OTDR were connected live to the fiber optic cable. The analysis shall include, but not be limited to, readout of fiber loss per unit length, splice loss measurement (amount of loss and distance from OTDR), connector loss measurement (amount of loss and distance from OTDR), total fiber optic cable length, generation of event tables, as well as identification and measurement of any other reflective events or faults.

- 3.2.6.3. The OTDR shall be located at one end of the fiber optic cable plant during the testing.
- 3.2.6.4. The pulse width setting of the OTDR shall be set to the lowest possible setting while allowing the full length of fiber optic cable to be measured for faults or reflective events.
- 3.2.6.5. The Contractor shall document the OTDR readings by supplying hard copies of the OTDR signatures for all fiber optic cables. The Contractor shall also supply hard copy of the reflective event table for all optical fibers which shall be directly printed out from the OTDR.
- 3.2.7. The Contractor shall supply fiber optic cable plant loss calculations for all installed components of the cable plant demonstrating that the total plant losses for each fiber are less than the minimum optical fiber optic modem power budget by a safety margin of at least 4dB.
- 3.3. Installation: The Contractor shall adhere to the following installation procedures during the placement of the fiber optic cable:
 - 3.3.1. All fiber optic cables to be installed on aerial messenger or in a conduit or duct facility shall be pulled as a unit. The Contractor shall ensure the cable is not damaged during storage, delivery and installation.
 - 3.3.2. The cable shall not be pulled along the ground or over or around obstructions. The cable shall not be stepped on by workmen, nor run over by vehicles or equipment. All cable shall be inspected and approved by the Engineer prior to installation.
 - 3.3.3. All cables shall be pulled on aerial messenger or in conduit with a cable grip designed to provide a firm hold on the exterior covering of the cable, with heat shrinkable end caps placed on the cable ends.
 - 3.3.4. The maximum pulling tensions and minimum bending radius shall not be violated at any time during installation, and shall be monitored at all times during installation. Prior to any installation of cable, the Contractor shall clean existing conduit and aerial messengers (if applicable), per industry standards.
 - 3.3.5. The Contractor shall establish adequate voice communications between the cable feeding location and the cable pulling equipment prior to commencing any pulling operation. The cable reels shall be placed on the same side of the pull box with the conduit where the cable is being installed. The reel shall be made level and brought into proper alignment with the conduit or messenger section, such that the cable will pass from the top of the reel. The cable shall be fed by manually rotating the reel.

- 3.3.6. For underground installations, the fiber optic cable shall not be pulled through an intermediate junction box, pull box, or any other opening in the conduit, unless approved by the Engineer. The necessary length of cable to be installed shall be pulled from pull box, or cabinet to the immediate next downstream pull box, or cabinet. The remaining length of cable to be installed in the next conduit or along aerial messenger shall be carefully stacked or stored in a manner that allows that length of cable to be safely pulled into the next conduit.
- 3.3.7. An approved cable feeder guide shall be used between the cable reel or the storage stack and the face of the conduit to protect the cable, and to guide the cable installation. The dimensions and set-up of the feeder guide shall be such that the cable does not bend at any location to a radius less than the cable's minimum allowable bending radius. The cable shall not be pulled over edges or corners, over or around obstructions, or through unnecessary curves or bends. The cable shall be looped in and out to cabinets and pull boxes to provide adequate slack (as specified in Section 3.5 Cable Spare of this specification) and the least amount of stress on the fibers. The Contractor shall ensure that the cable is not damaged during storage or installation.
- 3.3.8. Fiber optic cable ends shall be kept sealed at all times during installation, using an approved cable end cap. Tape shall not be permitted to seal the cable end. The cable end shall remain sealed until the Contractor terminates the fiber cables. Cables that are not immediately terminated shall have a minimum of six feet of slack.
- 3.3.9. The allowable pulling tension shall be the lesser of either of the two values below:
- 3.3.9.1. The cable manufacturer's recommended pulling tension from the outer jacket for the cable.
- 3.3.9.2. Eighty percent of the cable manufacturer's maximum pulling tension from the outer jacket.
- 3.3.10. The Contractor shall monitor the tension on the fiber optic cable with the use of an approved tension gauge. The gauge shall be placed sufficient distance from the take up reel, such that the tension can be read throughout the entire pulling operation.
- 3.3.11. When using lubricants, the Contractor shall adhere to the cable manufacturer's requirements for the proper amount, application tools and method, and removal of the lubricant from the exposed cable.
- 3.3.12. All cable shall run continuously from termination point to termination point as indicated on the plans or the Engineer. The Contractor shall carefully determine the length of cable to reach from termination point to termination point. Cutting of fiber optic cables at any location other than those shown on the plans shall not be permitted.

- 3.3.13. The Contractor shall document the locations of all splices and connections for each strand of fiber optic cable. This documentation shall show the distance in feet of fiber optic cable from the end of the cable for every splice and connection, and shall also show the cable length marking as marked on the cable for every splice and connection. Four copies of the documentation shall be furnished to the Engineer prior to testing.
- 3.4. Cable Termination: The Contractor shall terminate fiber optic cables in the following manner:
- 3.4.1. All splice installations shall be performed using a fusion splicing technique. Splice insertion loss shall not exceed 0.1 dB.
 - 3.4.2. The Contractor shall provide all equipment and consumable supplies necessary for performing the splices.
 - 3.4.3. Each spliced fiber shall be packaged in a protective, waterproof sleeve.
 - 3.4.4. Bare fibers shall be completely re-coated with a protective room temperature vulcanizing (RTV) coating gel, or similar approved substance, prior to the application of the sleeve so as to protect the fiber from scoring, dirt, or microbending.
- 3.5. Cable Spare: The Contractor shall install spare cable as follows and as indicated by the engineer:
- 3.5.1. A total of 60 feet of cable shall be stored in all handholes unless otherwise noted on the Plans. If there is a splice enclosure inside the handhole, then a minimum of 30 feet of slack cable shall be located on each side of the splice enclosure.
 - 3.5.2. A total of 120 feet shall be stored at all aerial splice enclosure locations unless otherwise noted on the Plans. A minimum of 60 feet of slack cable shall be located on each side of the splice enclosure. The slack cable shall be supported by mechanical means approved by the manufacturer and by the utility pole owner.
 - 3.5.3. A total of 40 feet shall be stored at all splice enclosure locations inside control cabinets unless otherwise noted on the Plans. A minimum of 20 feet of slack cable shall be located on each side of the splice enclosure.
 - 3.5.4. Cable storage shall be performed in an industry standard manner that does not violate the minimum bending radius specification of the cable.
 - 3.5.5. All spare cable shall be hung on cable racks where provided.

4. The Contractor is advised of the following information provided by the City of Waterville on the City’s existing fiber optic cable network from which existing dark fibers shall be used in this project. Assigned fibers are identified as “Traffic Lights”.

4.1. Plan ID Fiber Optic Backbone “A” (BB-A)

City Hall

To Town of Oakland (Williams School)

City Hall Patch			Oakland Patch	
Block	Pair	Function	Block	Pair
1	1	Oakland PD - Data	1	1
1	2	Oakland Fire - Data	1	2
1	3	Oakland High School - Camera	1	3
2	1	Oakland PD - State Police	2	1
2	2	Oakland Fire - Public Internet Wireless	2	2
2	3		2	3
3	1	Oakland Schools - Internet	3	1
3	2		3	2
3	3		3	3
4	1		4	1
4	2		4	2
4	3		4	3
5	1	Traffic Lights	5	1
5	2		5	2
5	3		5	3
6	1		6	1
6	2		6	2
6	3		6	3
7	1		7	1
7	2		7	2
7	3		7	3
8	1		8	1
8	2		8	2
8	3		8	3

Leave City Hall through North Parking Lot
 to Front Street
 to Union Street
 to College Avenue
 to Getchell Street
 to Main Street
 to Pleasant Street
 to Gilman Street
 to Burleigh Street
 to Western Avenue
 to Cool Street
 to Kennedy Memorial Drive
 to Oakland - Williams School

4.2. Plan ID Fiber Optic Backbone “B” (BB-B)

Public Works**To High School**

PW Patch			High School patch	
Block	Pair	Function	Block	Pair
B	1	Patch Through to City Hall	B	1
B	2	Patch Through to Mitchell School	B	2
B	3	Patch through to City hall	B	3
B	4		B	4
B	5	Patch through to City Hall	B	5
B	6	Patch Through to Mitchell School	B	6

Leave PW Admin Building
to Wentworth Court
to Main Street
to Pleasant Street
to Gilman Street
To Riverside Drive
to Waterville High School

High School**To Albert S Hall School**

HS Patch			Hall School Patch	
Panel	Strand	Function	Block	Strand
1	13		1	1
1	14		1	2
1	15	In Use	1	3
1	16	In Use	1	4
1	17	In Use	1	5
1	18	In Use	1	6
1	19		1	7
1	20		1	8
1	21		1	9
1	22		1	10
1	23		1	11
1	24		1	12
1	25	Traffic Lights	1	13
1	26	Traffic Lights	1	14
1	27	Traffic Lights	1	15
1	28	Traffic Lights	1	16
1	29		1	17
1	30		1	18
1	31		1	19
1	32		1	20
1	33		1	21
1	34		1	22
1	35		1	23
1	36		1	24

Leave High School
to Riverside Drive
to Gilman Street
to Pleasant Street
to Albert S. Hall School

4.3. Plan ID Fiber Optic Backbone “C” (BB-C)

Hall School

To Alternative Education

HS Patch			Alt Ed Patch	
Panel	Strand	Function	Block	Strand
2	25	Traffic Lights	1	1
2	26	Traffic Lights	1	2
2	27	Traffic Lights	1	3
2	28	Traffic Lights	1	4
2	29		1	5
2	30		1	6
2	31		1	7
2	32		1	8
2	33		1	9
2	34		1	10
2	35		1	11
2	36		1	12

Leave Hall School
 to Pleasant Street
 to Western Ave
 to Elm Street
 to Silver Street
 to Alternative Ed School

4.4. Plan ID Fiber Optic Backbone “D” (BB-D)

City Hall

To Library

City Hall			Library	
Panel	Strand	Function	Block	Strand
1	1	Traffic Lights	1	1
1	2	Traffic Lights	1	2
1	3		1	3
1	4		1	4
1	5		1	5
1	6		1	6
1	7		1	7
1	8		1	8
1	9		1	9
1	10		1	10
1	11		1	11
1	12		1	12

Depart City Hall
 to Front Street
 to Union Street
 to College Avenue
 to Getchell Street
 to Main Street
 to Pleasant Street
 to Park Street
 to Elm Street
 to Library Front

4.5. Plan ID Fiber Optic Backbone “E” (BB-E)

City Hall

To Public Works

City Hall Patch			PW Patch	
Block	Pair	Function	Block	Pair
A	1	PW Admin - Data	D	1
A	2	Parks and Rec - Data	D	2
A	3	PW Garage - Data	D	3
A	4		D	4
A	5		D	5
A	6	WTVL School - Internet	D	6
B	1	PW Admin - Voice	C	1
B	2		C	2
B	3	Winslow Patch Through	C	3
B	4		C	4
B	5	High School - Jr High - Cameras	C	5
B	6	Mitchel School - Cameras	C	6

Traffic

Move to A -4
Move to A-5

Leave City Hall through North Parking Lot
to Front Street
to Union Street
to College Avenue
to Getchell Street
to Main Street
to Wentworth Court
to Public Works admin building

4.6. Plan ID Fiber Optic Backbone “F” (BB-F)

Public Works

To Mitchell School

PW Patch			Mitchell Patch	
Block	Pair	Function	Block	Pair
1	1	In use	1	1
1	2	In use	1	2
1	3	In use	1	3
1	4	In use	1	4
1	5		1	5
1	6		1	6
2	1	Traffic Lights	2	1
2	2		2	2
2	3		2	3
2	4		2	4
2	5		2	5
2	6		2	6
3	1	In use	3	1
3	2	In use	3	2
3	3		3	3
3	4		3	4
3	5		3	5
3	6		3	6
4	1		4	1
4	2		4	2
4	3		4	3
4	4		4	4
4	5		4	5
4	6		4	6

Leave PW Admin Building
 to Wentworth Court
 to Main Street
 to Armory Road
 to Mitchell School

4.7. Plan ID Fiber Optic Backbone “G” (BB-G)

City Hall

To Winslow Town Hall

City Hall Patch			Winslow Patch	
Block	Pair	Function	Block	Pair
1	1	Winslow Town Hall - Data	1	1
1	2	Winslow School - Cameras	1	2
1	3		1	3
2	1		2	1
2	2		2	2
2	3		2	3
3	1	Winslow - State Police Network	3	1
3	2	Patch through from Waterville Schools	3	2
3	3	Winslow School - Internet	3	3
4	1		4	1
4	2		4	2
4	3		4	3
5	1	Traffic Lights	5	1
5	2		5	2
5	3		5	3
6	1		6	1
6	2		6	2
6	3		6	3
7	1		7	1
7	2		7	2
7	3		7	3
8	1		8	1
8	2		8	2
8	3		8	3

Leave City Hall through North Parking Lot
 to Front Street
 to Head of Falls Parking lot
 to Two Cent Bridge
 to Mill Road
 to Town office through back parking lot

4.8. Additional Citywide Fiber Optic Connections.

City Hall**To Fire Station**

City Hall Patch			Fire Patch	
Block	Pair	Function	Block	Pair
C	1	Fire Department Basement - Data	A	1
C	2	Fire Department Data Room - Data	A	2
C	3	Fire Department Data Room - NAS	A	3
C	4	Fire Department - Public Wireless	A	4
C	5		A	5
C	6	Fire Department Data Room - Voice	A	6

Leave City Hall through North Parking Lot
to Front Street
to Appleton Street
to Hathaway Road
to the back of the fire station - Underground

Public Works**To PW Old Garage**

PW Patch			Garage Patch	
Block	Pair	Function	Block	Pair
E	1	To Garage - Voice	A	1
E	2		A	2
E	3		A	3
E	4		A	4
E	5		A	5
E	6	Patch Through to City Hall - Data	A	6

Leave PW Admin Building
Cross parking lot
To PW Garage

Public Works

To New Garage

PW Patch			New Garage Patch	
Block	Pair	Function	Block	Pair
1	1		1	1
1	2		1	2
1	3		1	3
1	4		1	4
1	5		1	5
1	6		1	6

Leave PW Admin Building
 Through attic in admin building
 underground to new garage

Public Works

To Parks and Recreation

PW Patch			P&R Patch	
Block	Pair	Function	Block	Pair
A	1	To City Hall - Patch Through	A	1
A	2		A	2
A	3		A	3
A	4		A	4
A	5		A	5
A	6		A	6

Leave PW Admin Building
 to Wentworth Court
 to Main Street
 to Pleasant Street
 to Gilman Street
 to Burleigh Street
 to Western Ave
 to Parks and Recreation building

High School

To Junior High School

HS Patch			Jr High Patch	
Panel	Strand	Function	Block	Pair
2	1		1	1
2	2		1	2
2	3	In Use	1	3
2	4	In Use	1	4
2	5	In Use	1	5
2	6	In Use	1	6
2	7		1	7
2	8		1	8
2	9		1	9
2	10		1	10
2	11		1	11
2	12		1	12
2	13	In Use	1	13
2	14	In Use	1	14
2	15		1	15
2	16		1	16
2	17		1	17
2	18		1	18
2	19		1	19
2	20		1	20
2	21		1	21
2	22		1	22
2	23		1	23
2	24		1	24

Leave High School
 to Riverside Drive
 to Gilman Street
 to Burleigh Street
 to Western Ave
 to Cool Street
 to KMD
 to West River Road
 to Waterville JR. High

718.15 Fiber Optic Splice Enclosures This item of work shall conform to this specification. This item shall consist of furnishing and installing splice enclosures, splices, and appurtenances of the type specified at the locations shown on the plans or as indicated by the Engineer.

MATERIALS: The Fiber Optic Splice Enclosure shall be a stand-alone unit manufactured for installation on aerial messenger wire, or on the utility pole as permitted, and shall meet the following requirements:

1. The splice enclosures shall be either aerially mounted or wall-mounted as per the plans or as directed by the Resident.
2. The wall-mounted splice enclosure shall be housed in a metallic NEMA 3R box suitable for wall-mounting.
3. The splice enclosure shall be manufactured of non-corroding materials and resistant to caustic solutions.
4. All splice enclosures shall employ re-usable sealing materials allowing multiple re-entrance without replacing any component.
5. If special tools or kits are required to enter and close splice cases, then these tools or kits shall be provided by the Contractor. Three sets of keys for entering the NEMA 3R box shall be provided by the Contractor.
6. The splice enclosures shall be large enough to retain the number and size of splice trays capable of holding a minimum of 24 splices.
7. Each splice case shall contain a splice tray organizer capable of holding the required number of splice trays.
8. The splice trays shall meet the following requirements:
9. The splice trays shall incorporate a system to retain and provide strain relief to the fiber optic buffers tubes.
 - 9.1 The splice trays shall incorporate grooves where the fiber optic splice can be held in place.
 - 9.2 Each splice tray shall incorporate a clear snap on lid.
10. The Fiber Optic Splice Enclosure shall incorporate cable guides that maintain fiber strands and fiber buffer tubes bending radius greater than the minimum allowed by the manufacturer. The Fiber Optic Splice Enclosure shall further incorporate a restraining mechanism to hold each fiber optic cable central member and outside jacket.

CONSTRUCTION METHODS: The Contractor shall perform splices in each Fiber Optic Splice Enclosure as shown in the plans. The maximum splice loss shall be 0.1 dB.

718.16 Twelve (12) Position Fiber Optic Patch Panel This item of work shall conform to this specification. This item shall consist of furnishing and installing 12 Position Fiber Optic Patch Panels at the locations shown on the plans or as indicated by the Engineer.

MATERIALS: The Fiber Optic Patch Panels shall meet the following requirements:

1. The Fiber Optic Patch Panel - 12 position shall be a stand-alone unit manufactured for outdoor field cabinets.
2. The Fiber Optic Patch Panel - 12 position shall include and be capable of accommodating a minimum of 12 SC type connector sleeves.
3. The Fiber Optic Patch Panel - 12 position shall include and be capable of terminating up to 12 connectorized pigtails.
4. The Fiber Optic Patch Panel shall incorporate a hinged access door.
5. The Fiber Optic Patch Panel shall be rack, wall, or shelf mountable as required by the specific location. The patch panel shall be securely fastened in place as recommended by the manufacturer.
6. The Fiber Optic Patch Panel shall include splice trays meeting the following requirements:
 - 6.1 The splice trays in the Fiber Optic Patch Panel - 12 position shall be capable of holding a minimum of 24 splices.
 - 6.2 The splice trays shall incorporate a system to retain and provide strain relief to the fiber optic buffers tubes and connector pigtails.
 - 6.3 The splice trays shall incorporate grooves where the fiber optic splice can be held in place.
 - 6.4 Each splice tray shall incorporate a clear snap on lid.
7. The Fiber Optic Patch Panel shall include a restraining system to hold the splice trays securely in place.

8. The Fiber Optic Patch Panel shall incorporate cable guides that maintain fiber strands and fiber buffer tubes bending radius greater than the minimum allowed by the manufacturer.
9. The Fiber Optic Patch Panel - 12 Position shall use 12 connectorized pigtails to connect the fiber optic cable to the Fiber Optic Patch Panel.
10. The number of pigtails to be furnished and spliced to the fiber optic cable are shown in the fiber optic splice tables in the plans. The connectorized pigtails shall meet the following requirements:
 - 10.1 All fiber optic connectors shall be SC type with a PC (physical Contact) 2.5 mm ceramic ferrule.
 - 10.2 The connector mean insertion loss shall be 0.3 dB and maximum 0.5 dB.
 - 10.3 The connector mean return loss shall be ≤ -59 dB and maximum of ≤ -55 dB.
 - 10.4 All SC connectors shall have a durability rate of less than 0.2 dB change over 500 rematings.
 - 10.5 Connectors shall meet ANSI/TIA EIA-604-3A requirements.
 - 10.6 The fiber optic strand of the connectorized pigtail shall have matching optical properties as the fiber optic strand used on the fiber optic cable.
11. The Fiber Optic Patch Panel shall incorporate a restraining mechanism to hold the fiber optic cable central member and outside jacket.

718.17 Ethernet Switch With Fiber Optic Interfaces This item of work shall conform to this specification. This item shall consist of furnishing and installing an Ethernet Switch with fiber optic interfaces, as well as all needed accessories required for a full and complete installation, including but not limited to power adapters, Ethernet cables, and fiber optic patch cords, as described herein.

MATERIALS: The materials for this work shall conform to the following requirements:

1. The work under this item specifies the requirements for the Ethernet Switch with single mode fiber optic interfaces. The Ethernet Switch shall accept both RJ-45 Ethernet connection as well as single mode SC fiber optic connections. The Ethernet Switch shall be installed within the field cabinets and at the City of Waterville City Hall as shown on the plans. The Ethernet Switch shall be capable of shelf mounting or wall mounting with supplied wall mount brackets, or equivalent meeting the following requirements:
2. The Ethernet Switch specified herein shall be a self-contained unit capable of 24-hour per day unattended operation. The Ethernet Switch shall be supplied, assembled and tested by the contractor. The Ethernet Switch shall be of rugged design and suitable for reliable operation when mounted in the configuration as specified in these Specifications and the Plans. The Ethernet Switch shall be configured for minimum maintenance and need for adjustment after initial set-up. The Ethernet Switch shall include all software required for monitoring and updating the Ethernet Switch from a computer within the Police Department.
3. The Ethernet Switch shall have the following connections:
 - 3.1 Minimum of Six (6) 10/100/1000 Mbps Ethernet ports with RJ-45 connectors that shall support the following network standards:
 - 3.1.1 IEEE.802.3 10 Base-T
 - 3.1.2 IEEE.802.3u 100 Base-T
 - 3.1.3 IEEE.802.1d Spanning Tree
 - 3.1.4 IEEE.802.1w Rapid Spanning Tree
 - 3.1.5 IEEE.802.1q VLAN
 - 3.1.6 IEEE.802.1p Class of service (CoS)
 - 3.2 The Contractor shall supply, install, and test all Ethernet cables required to make all connections as shown in the Plans.

- 3.3 The Contractor shall supply, install, and test all fiber optic patch cords required to make all connections as shown in the Plans. Fiber optic patch cords shall meet the following requirements:
- 3.3.1 Each patch cord shall contain one single mode fiber strand with a factory terminated SC type connector.
 - 3.3.2 Each patch cord shall be 3 feet in length.
 - 3.3.3 The patch cords shall operate without degradation over a temperature range of -34 to 74 degrees Celsius at a relative humidity of 10% to 90% condensing.
 - 3.3.4 All fiber optic strands shall be nonconductive to electricity.
 - 3.3.5 The Fiber Optic Patch Cord shall meet or exceed the following performance characteristics:
 - 3.3.5.1 Fiber Optic Patch Cords shall consist of tight buffered optical fibers of the type used for interconnect cable with a 900 μm secondary buffer.
 - 3.3.5.2 The fiber shall be surrounded by aramid fiber yarn strength members and a UL listed OFNR, UV resistant and fungus resistant yellow outer jacket 3mm in diameter.
 - 3.3.5.3 The optical fibers shall be 100 kpsi proof tested and have an attenuation change no greater than .05 dB/km.
 - 3.3.5.4 The attenuation of the Fiber Optic Patch Cord shall not exceed 1.0 dB/km at 1310 nm and 0.75 db/km at 1550 nm.
 - 3.3.5.5 The ST type connector shall meet the following requirements:
 - 3.3.5.5.1 All fiber optic connectors shall be SC type with a PC (physical Contact) 2.5 mm ceramic ferrule.
 - 3.3.5.5.2 The connector mean insertion loss shall be 0.3 dB and maximum 0.5 dB.
 - 3.3.5.5.3 The connector mean return loss shall be -59 dB and maximum of -55 dB.
 - 3.3.5.5.4 All SC connectors shall have a durability rate of less than 0.2 dB change over 500 rematings.

3.3.5.5.5 Connectors shall meet ANSI/TIA EIA-604-3A requirements.

3.4 Two single mode fiber optic ports, each containing two SC type connectors that shall support the following network standards:

- 3.4.1 IEEE.802.3u 100 Base-FX
- 3.4.2 IEEE.802.3ab 1000 Base-FX
- 3.4.3 IEEE.802.1d Spanning Tree
- 3.4.4 IEEE.802.1w Rapid Spanning Tree
- 3.4.5 IEEE.802.1q VLAN
- 3.4.6 IEEE.802.1p Class of Service (CoS)

3.5 The two single mode fiber optic ports shall meet the following optical requirements:

- 3.5.1 The two optical emitters shall be laser diode type.
- 3.5.2 The two single mode fiber optic ports shall have an operating wavelength of 1310 nm, single mode.
- 3.5.3 The two single mode fiber optic ports shall each have an optical power budget of 13dB, minimum.
- 3.5.4 The two optical emitters shall have a transmit power of -15dbM, minimum.
- 3.5.5 The two optical detectors shall have receive sensitivity of -28dbM, worst case.

4. The Ethernet Switch shall be an Ethernet layer 2 device.

5. The Ethernet Switch shall have a switching method of store and forward.

6. The Ethernet Switch shall support the following protocols:

6.1 RTP/ID

6.2 TCP/IP with full multicast support

6.3 DNS

6.4 DHCP

7. The Ethernet Switch shall support the following network management protocols:
 - 7.1 SNMP V2c
 - 7.2 RMON for Ethernet agent
 - 7.3 Telnet/TFTP
8. The Ethernet Switch shall have an operating temperature range of -34°C to +74° C
9. The Ethernet Switch shall have a power usage of +12VDC to +24VDC at 1 amp or less. This shall be provided by an included plug-in type AC adapter.

718.18 Messenger Wire This item of work shall conform to this specification. This item shall consist of furnishing and installing aerial fiber optic messenger wire, and appurtenances at the locations shown on the plans or as indicated by the Engineer.

MATERIALS: The aerial fiber optic messenger wire shall be manufactured for aerial installation of fiber optic cable and shall be double galvanized, seven-strand steel wire cable not less than 0.3 inches in diameter and 6,600 lbf breaking strength, Extra High Strength Grade (EHS).

INSTALLATION: Installation shall meet the following requirements:

1. The Contractor shall calculate the strain and sag for the specific aerial installation as shown on the plans and use the recommended tensions and messenger types per the fiber-optic cable and/or messenger wire manufacturer.
2. The Contractor shall install messenger wire with a sag matching that of existing adjacent cables. Messenger wire shall not sag into or near adjacent cables.
3. All utility relocations and required guying shall be completed prior to the installation of messenger wire.

718.19 Pedestrian Crossing System Pedestrian crossings must have 16-inch by 18-inch countdown pedestrian signals that count down during the pedestrian clearance interval. The pedestrian countdown modules shall be GE Lumination GT1 Series in 16 inch – McCain Model 1000 Series (black finish) housings or approved equal.

The Accessible Pedestrian Signal (APS) push buttons with locator tones shall be Campbell Company Advisor Model A-57 or approved equal. Signs shall be posted at each audible signal push button stating which street may be crossed based upon the related push button. The audible walk interval messages used shall be as follows:

1. For an exclusive pedestrian phase – “Walk sign is on for all crossings”
2. For other locations with concurrent pedestrian phases – for example “Elm Street, Walk sign is on to cross.” The name of the street to cross at locations with concurrent pedestrian phases will change at each audible push button.

The audible push button identification information messages used during the non-walk phases shall be as follows:

1. For an exclusive pedestrian phase – “Wait to cross”
2. For other locations with concurrent pedestrian phases – for example “Wait to cross Elm Street.”

All controllers must have “Stop in Walk” set “On.”

STANDARD DETAIL UPDATES

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

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

535(04)	Precast Superstructure - Shear Key	10/12/06
535(05)	Precast Superstructure - Post Tensioning	10/12/06
535(06)	Precast Superstructure - Sections	10/12/06
535(07)	Precast Superstructure - Precast Slab & Box	10/12/06
535(08)	Precast Superstructure - Sections	10/12/06
535(09)	Precast Superstructure - Sections	10/12/06
535(10)	Precast Superstructure - Sections	10/12/06
535(11)	Precast Superstructure - Sections	10/12/06
535(12)	Precast Superstructure - Sections	10/12/06
535(13)	Precast Superstructure - Sections	10/12/06
535(14)	Precast Superstructure - Stirrups	10/12/06
535(15)	Precast Superstructure - Plan	10/12/06
535(16)	Precast Superstructure - Reinforcing	10/12/06
535(17)	Precast Superstructure - Notes	10/12/06
801(01)	Drives on Sidewalk Sections	2/06/07
801(02)	Drives on Non-Sidewalk Sections	2/06/07
535(03)	Precast Superstructure - Shear Key	12/5/07
535(04)	Precast Superstructure - Shear Key	12/5/07
535(05)	Precast Superstructure - Post Tensioning	12/5/07
535(17)	Precast Superstructure - Notes	12/5/07
801(01)	Drives on Sidewalk Sections	1/04/08
801(02)	Drives on Non-Sidewalk Sections	1/04/08
203(03)	Backslope Rounding	1/29/08
535(02)	Precast Superstructure - Curb Key & Drip Notch	5/20/08

535(05)	Precast Superstructure - Post Tensioning	5/20/08
502(03)	Concrete Curb - Bituminous Wearing Surface	2/2/09
502(03)A	Concrete Curb - Concrete Wearing Surface	2/2/09
502(07)	Precast Concrete Deck Panels - Layout Plan	2/2/09
502(07)A	Precast Concrete Deck Panels - Layout Plan	2/2/09
502(08)	Precast Concrete Deck Panels - Panel Plan	2/2/09
502(09)	Precast Concrete Deck Panels - Blocking Detail	2/2/09
502(10)	Precast Concrete Deck Panels	2/2/09
502(11)	Precast Concrete Deck Panels	2/2/09
502(12)	Precast Concrete Deck Panels - Notes	2/2/09
502(12)A	Precast Concrete Deck Panels - Notes	2/2/09
526(06)	Permanent Concrete Barrier	2/2/09
526(08)	Permanent Concrete Barrier – Type IIIA	2/2/09
526(08)A	Permanent Concrete Barrier – Type IIIA	2/2/09
526(13)	Permanent Concrete Barrier – Type IIIB	2/2/09
526(14)	Permanent Concrete Barrier – Type IIIB	2/2/09
526(21)	Concrete Transition Barrier	2/2/09
526(39)	Texas Classic Rail – Between Window	2/2/09
526(40)	Texas Classic Rail – Through Window	2/2/09
526(41)	Texas Classic Rail – Through Post	2/2/09
526(42)	Texas Classic Rail – Through Nose	2/2/09
606(20)	Guardrail - Type 3 - Single Rail - Bridge Mounted	2/2/09
606(21)	Guardrail - Type 3 - Single Rail - Bridge Mounted	2/2/09
606(22)	Guardrail - Type 3 - Single Rail - Bridge Mounted	2/2/09

606(23)	Guardrail - Type 3 - Single Rail - Bridge Mounted	2/2/09
609(06)	Vertical Bridge Curb	2/2/09
609(08)	Precast Concrete Transition Curb	2/2/09
502(12)	Precast Concrete Desk Panels	9/09
504(22)	Diaphragm & Crossframe Notes	9/09
626(09)	Electrical Junction Box for Traffic Signals and Lighting	8/20/10

SUPPLEMENTAL SPECIFICATION

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

SECTION 101

CONTRACT INTERPRETATION

101.2 Definitions

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

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

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

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

SECTION 102

DELIVERY OF BIDS

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

102.11.1 Non-curable Bid Defects Replace E. with “E. The unit price and bid amount is not provided or a lump sum price is not provided or is illegible as determined by the Department.”

SECTION 103

AWARD AND CONTRACTING

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

SECTION 104

GENERAL RIGHTS AND RESPONSIBILITIES

104.3.14 Interpretation and Interpolation In the first sentence, change “...and Geotechnical Information.” to “...Environmental Information, and Geotechnical Information.”

Delete the entire Section 104.5.9 and replace with the following:

SECTION 105 GENERAL SCOPE OF WORK

Delete the entire Section 105.6 and replace with the following:

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

105.6.2 Contractor Provided Services Utilizing the survey information and points provided by the Department, described in Subsection 105.6.1, Department Provided Services, the Contractor shall provide all additional survey layout necessary to complete the Work. This may include, but not be limited to, reestablishing all points provided by the Department, establishing additional control points, running axis lines, providing layout and maintenance of all other lines, grades, or points, and survey quality control to ensure conformance with the Contract. The Contractor is also responsible for providing construction centerline, or close reference points, for all Utility Facilities relocations and adjustments as necessary to complete the Work. When the Work is to connect with existing Structures, the Contractor shall verify all dimensions before proceeding with the Work. The Contractor shall employ or retain competent engineering and/or surveying personnel to fulfill these responsibilities.

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

105.6.2.1 Survey Quality Control The Contractor is responsible for all construction survey quality control. Construction survey quality control is generally defined as, first, performing initial field survey layout of the Work and, second, performing an independent check of the initial layout using independent survey data to assure the accuracy of the initial layout; additional iterations of checks may be required if significant discrepancies are discovered in this process. Construction survey layout quality control also requires written documentation of the layout process such that the process can be followed and repeated, if necessary, by an independent survey crew.

105.6.3 Survey Quality Assurance It is the Department's prerogative to perform construction survey quality assurance. Construction survey quality assurance may, or may not, be performed by the Department. Construction survey quality assurance is generally defined as an independent check of the construction survey quality control. The construction survey

quality assurance process may involve physically checking the Contractor's construction survey layout using independent survey data, or may simply involve reviewing the construction survey quality control written documentation. If the Department elects to physically check the Contractor's survey layout, the Contractor's designated surveyor may be required to be present. The Department will provide a minimum notice of 48 hours to the Contractor, whenever possible, if the Contractor's designated surveyor's presence is required. Any errors discovered through the quality assurance process shall be corrected by the Contractor, at no additional cost to the Department.

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

SECTION 106 QUALITY

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

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

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

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

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

SECTION 107 TIME

107.3.1 General Add the following: "If a Holiday occurs on a Sunday, the following Monday shall be considered a Holiday. Sunday or Holiday work must be approved by the Department, except that the Contractor may work on Martin Luther King Day, President's Day, Patriot's Day, the Friday after Thanksgiving, and Columbus Day without the Department's approval."

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

From	Up to and	Amount of Liquidated
------	-----------	----------------------

<u>More Than</u>	<u>Including</u>	<u>Damages per Calendar Day</u>
\$0	\$100,000	\$225
\$100,000	\$250,000	\$350
\$250,000	\$500,000	\$475
\$500,000	\$1,000,000	\$675
\$1,000,000	\$2,000,000	\$900
\$2,000,000	\$4,000,000	\$1,000
\$4,000,000	and more	\$2,100

SECTION 108
PAYMENT

Remove Section 108.4 and replace with the following:

“108.4 Payment for Materials Obtained and Stored Acting upon a request from the Contractor and accompanied by bills or receipted bills, the Department will pay for all or part of the value of acceptable, non-perishable Materials that are to be incorporated in the Work, including Materials that are to be incorporated into the Work, not delivered on the Work site, and stored at places acceptable to the Department. Examples of such Materials include steel piles, stone masonry, curbing, timber and lumber, metal Culverts, stone and sand, gravel, and other Materials. The Department will not make payment on living or perishable Materials until acceptably planted in their final locations.

If payment for Materials is made to the Contractor based on bills, only, then the Contractor must provide receipted bills to the Department for these Materials within 14 days of the date the Contractor receives payment for the Materials. Failure of the Contractor to provide receipted bills for these Materials within 14 days of the date the Contractor receives payment will result in the paid amount being withheld from the subsequent progress payment, or payments, until such time the receipted bills are received by the Department.

Materials paid for by the Department are the property of the Department, but the risk of loss shall remain with the Contractor. Payment for Materials does not constitute Acceptance of the Material. If Materials for which the Department has paid are later found to be unacceptable, then the Department may withhold amounts reflecting such unacceptable Materials from payments otherwise due the Contractor.

In the event of Default, the Department may use or cause to be used all paid-for Materials in any manner that is in the best interest of the Department.”

SECTION 109
CHANGES

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

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

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

109.5.1 Definitions - Types of Delays

B. Compensable Delay Replace (1) with the following; “a weather related Uncontrollable Event of such an unusually severe nature that a Federal Emergency Disaster is declared. The Contractor will only be entitled to an Equitable Adjustment if the Project falls within the geographic boundaries prescribed under the disaster declaration.”

109.7.2 Basis of Payment Replace with the following: “Adjustments will be established by mutual Agreement based upon Unit or Lump Sum Prices. These agreed Unit or Lump Sum prices will be full compensation and no additions or mark-ups are allowed. If Agreement cannot be reached, the Contractor shall accept payment on a Force Account basis as provided in Section 109.7.5 - Force Account Work, as full and complete compensation for all Work relating to the Equitable Adjustment.”

109.7.3 Compensable Items Delete this Section entirely.

109.7.4 Non-Compensable Items Replace with the following: “The Contractor is not entitled to compensation or reimbursement for any of the following items:

- A. Total profit or home office overhead in excess of 15%,
- B.”

109.7.5 Force Account Work

C. Equipment

Paragraph 2, delete sentence 1 which starts; “Equipment leased....”

Paragraph 6, change sentence 2 from “The Contractor may furnish...” to read “If requested by the Department, the Contractor will produce cost data to assist the Department in the establishment of such rental rate, including all records that are relevant to the Actual Costs including rental Receipts, acquisition costs, financing documents, lease Agreements, and maintenance and operational cost records.”

Add the following paragraph; “Equipment leased by the Contractor for Force Account Work and actually used on the Project will be paid for at the actual invoice amount plus 10% markup for administrative costs.”

Add the following section;

“F. Subcontractor Work When accomplishing Force Account Work that utilizes Subcontractors, the Contractor will be allowed a maximum markup of 5% for profit and overhead on the Subcontractor’s portion of the Force Account Work. If the Department does not accept the Subcontractor quote, then the Subcontractor work will be subject to the Force Account provisions with a 5% markup for profit & overhead..”

SECTION 110 INDEMNIFICATION, BONDING, AND INSURANCE

Delete the entire Section 110.2.3 and replace with the following:

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

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

The Contractor shall pay all premiums and take all other actions necessary to keep said bond in effect for the duration of the Landscape Establishment Period described in Special Provision 621.0036 - Establishment Period. If the Surety becomes financially insolvent, ceases to be licensed or approved to do business in the State of Maine, or stops operating in the United States, the Contractor shall file new bonds complying with this Section within 10 Days of the date the Contractor is notified or becomes aware of such change.

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

By issuing a bond, the Surety agrees to be bound by all terms of the Contract, including those related to payment, time for performance, quality, warranties, and the Department’s self-help remedy provided in Section 112.1 - Default to the same extent as if all terms of the Contract are contained in the bond(s).

Regarding claims related to any obligations covered by the bond, the Surety shall provide, within 60 Days of Receipt of written notice thereof, full payment of the entire claim or written notice of all bases upon which it is denying or contesting payment. Failure of the Surety to provide such notice within the 60-day period constitutes the Surety’s waiver of any right to deny or contest payment and the Surety’s acknowledgment that the claim is valid and undisputed.

SECTION 202 REMOVING STRUCTURES AND OBSTRUCTIONS

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

SECTION 203 EXCAVATION AND EMBANKMENT

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

Delete the entire Section 203.041 and replace with the following:

“203.041 Salvage of Existing Hot Mix Asphalt Pavement All existing hot mix asphalt pavement designated to be removed under this contract must be salvaged for utilization. Existing hot mix asphalt pavement material shall not be deposited in any waste area or be placed below subgrade in any embankment.

Methods of utilization may be any of the following:

1. Used as a replacement for untreated aggregate surface course on entrances provided the material contains no particles greater than 50 mm [2 in] in any dimension. Payment will be made under Pay Item 411.09, Untreated Aggregate Surface Course or 411.10, Untreated Aggregate Surface Course, Truck Measure. Material shall be placed, shaped, compacted and stabilized as directed by the Resident.

2. Stockpiled at commercial or approved sites for commercial or MaineDOT use.

3. Other approved methods proposed by the Contractor, and approved by the Resident which will assure proper use of the existing hot mix asphalt pavement.

The cost of salvaging hot mix asphalt material will be included for payment under the applicable pay item, with no additional allowances made, which will be full compensation for removing, temporarily stockpiling, and rehandling, if necessary, and utilizing the material in entrances or other approved uses, or stockpiling at an approved site as described above. The material will also be measured and paid for under the applicable Pay Item if it is reused for aggregate in entrances, or other approved uses.”

SECTION 502 STRUCTURAL CONCRETE

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

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

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

502.0505 Resolution of Disputed Acceptance Test Results Combine the second and third sentence to read: “Circumstances may arise, however, where the Department may

502.10 Forms and False work

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

502.11 Placing Concrete

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

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

Second paragraph; delete the first two sentences.

Third paragraph; delete the entire paragraph which starts “When the ambient temperature....”

Fourth paragraph; delete “approved” to now read “...continuously wet for the entire curing period...”

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

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

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

SECTION 503 REINFORCING STEEL

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

SECTION 504 STRUCTURAL STEEL

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

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

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

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

SECTION 535

PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

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

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

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

SECTION 603

PIPE CULVERTS AND STORM DRAINS

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

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

SECTION 604
MANHOLES, INLETS, AND CATCH BASINS

604.02 Materials Add the following:

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

SECTION 605
UNDERDRAINS

605.05 Underdrain Outlets Make the following change:

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

SECTION 606
GUARDRAIL

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

606.09 Basis of Payment First paragraph; delete the second and third sentence in their entirety and replace with “Butterfly-type guardrail reflectorized delineators shall be mounted on all W-beam guardrail at an interval of every 10 posts [62.5 ft] on tangents sections and every 5 posts [31.25 ft] on curved sections as directed by the Resident. On divided highways, the delineators shall be yellow on the left hand side and silver/white on the right hand side. On two-way roadways, the delineators shall be silver/white on the right hand side. All delineators shall have retroreflective sheeting applied to only the traffic facing side. Reflectorized guardrail delineators will not be paid for directly, but will be considered incidental to the guardrail items.”

SECTION 609
CURB

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

SECTION 610
STONE FILL, RIPRAP, STONE BLANKET,
AND STONE DITCH PROTECTION

Add the following paragraph to Section 610.02:

“Materials shall meet the requirements of the following Sections of Special Provision 703:

Stone Fill	703.25
Plain and Hand Laid Riprap	703.26
Stone Blanket	703.27
Heavy Riprap	703.28
Definitions	703.32”

Add the following paragraph to Section 610.032.a.

“Stone fill and stone blanket shall be placed on the slope in a well-knit, compact and uniform layer. The surface stones shall be chinked with smaller stone from the same source.”

Add the following paragraph to Section 610.032.b:

“Riprap shall be placed on the slope in a well-knit, compact and uniform layer. The surface stones shall be chinked with smaller stone from the same source.”

Add the following to Section 610.032: “Section 610.032.d. The grading of riprap, stone fill, stone blanket and stone ditch protection shall be determined by the Resident by visual inspection of the load before it is dumped into place, or, if ordered by the Resident, by dumping individual loads on a flat surface and sorting and measuring the individual rocks contained in the load. A separate, reference pile of stone with the required gradation will be placed by the Contractor at a convenient location where the Resident can see and judge by eye the suitability of the rock being placed during the duration of the project. The Resident reserves the right to reject stone at the job site or stockpile, and in place. Stone rejected at the job site or in place shall be removed from the site at no additional cost to the Department.”

SECTION 615
LOAM

615.02 Materials Make the following change:

<u>Organic Content</u>	<u>Percent by Volume</u>
Humus	“5% - 10%”, as determined by Ignition Test

SECTION 618
SEEDING

618.01 Description Change the first sentence to read as follows: “This work shall consist of furnishing and applying seed” Also remove “,and cellulose fiber mulch” from 618.01(a).

618.03 Rates of Application In 618.03(a), remove the last sentence and replace with the following: “These rates shall apply to Seeding Method 2, 3, and Crown Vetch.”

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

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

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

SECTION 620 GEOTEXTILES

620.03 Placement Section (c)

Title: Replace “Non-woven” in title with “Erosion Control”.

First Paragraph: Replace first word “Non-woven” with “Woven monofilament”.

Second Paragraph: Replace second word “Non-woven” with “Erosion Control”.

620.07 Shipment, Storage, Protection and Repair of Fabric Section (a)

Replace the second sentence with the following: “Damaged geotextiles, as identified by the Resident, shall be repaired immediately.”

620.09 Basis of Payment

Pay Item 620.58: Replace “Non-woven” with “Erosion Control”

Pay Item 620.59: Replace “Non-woven” with “Erosion Control”

SECTION 621 LANDSCAPING

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

SECTION 626 HIGHWAY SIGNING

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

SECTION 627 PAVEMENT MARKINGS

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

SECTION 637 DUST CONTROL

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

SECTION 639 ENGINEERING FACILITIES

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

Description Change “Floor Area” to “Floor Area (Outside Dimension)”. Change Type B floor area from “15 (160)” to “20 (217)”.

639.09 Telephone Paragraph 1 is amended as follows:
“The contractor shall provide **two** telephone lines and two telephones,....”

Add- “In addition the contractor will supply one computer broadband connection, modem lease and router. The router shall have wireless access and be 802.11n or 802.11g capable and wireless. The type of connection supplied will be contingent upon the availability of services (i.e. DSL or Cable Broadband). It shall be the contractor’s option to provide dynamic or static IP addresses through the service. **The selected service will have a minimum downstream connection of 1.5 Mbps and 384 Kbps upstream.** The contractor shall be responsible for the installation charges and all reinstallation charges following suspended periods. Monthly service and maintenance charges shall be billed by the Internet Service Provider (ISP) directly to the contractor.”

SECTION 652 MAINTENANCE OF TRAFFIC

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

FAP units shall meet requirements of the current Manual on Uniform Traffic Control Devices

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

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

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

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

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

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

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

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

652.2.4 Other Devices Delete the last paragraph and add the following:

“652.2.5 Portable Changeable Message Sign Trailer mounted Portable Changeable Message Signs (PCMS) must be of a type that has been submitted to AASHTO’s National Transportation Product Evaluation Program (NTPEP) for evaluation and placed on the Maine Department of Transportations’ Approved Products List of Portable Changeable Message Signs & Flashing Arrow Panels. The PCMS unit shall meet or exceed the current specifications of the Manual on Uniform Traffic Control Devices (MUTCD), 6F.55.

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

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

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

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

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

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

The PCMS shall be mounted on a trailer in such a way that the bottom of the message sign panel shall be a minimum of 2.1 M [7 ft] above the roadway in urban areas and 1.5 M [5 ft] above the roadway in rural areas when it is in the operating mode. PCMS trailers should be of a heavy duty type with a 51 mm [2"] ball hitch and a minimum of four leveling jacks (at each corner). The sign shall be capable of being rotated 360° relative to the trailer. The face of the trailer shall be delineated on a permanent basis by affixing retro-reflective material, known as conspicuity material, in a continuous line as seen by oncoming drivers."

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

|| Add the follow to the list of requirements: "k. The plan for unexpected nighttime work along with a list of emergency nighttime equipment available on-site." ||

In the last paragraph add the following as the second sentence: "The Department will review and provide comments to the Contractor within 14 days of receipt of the TCP." Add the following as the last sentence: "The creation and modification of the TCP will be considered incidental to the related 652 items."

652.3.5 Installation of Traffic Control Devices In the first paragraph, first sentence; change "Signs shall be erected..." to "Portable signs shall be erected.." In the third sentence; change

“Signs must be erected so that the sign face...” to “Post-mounted signs must also be erected so that the sign face...”

652.4 Flaggers Replace the first paragraph with the following; “The Contractor shall furnish flaggers as required by the TCP or as otherwise specified by the Resident. All flaggers must have successfully completed a flagger test approved by the Department and administered by a Department-approved Flagger-Certifier who is employing that flagger. All flaggers must carry an official certification card with them while flagging that has been issued by their employer. Flaggers shall wear safety apparel meeting ANSI 107-2004 Class 2 risk exposure that clearly identifies the wearer as a person, and is visible at a minimum distance of 300 m [1000 ft], and shall wear a hardhat with 360° retro-reflectivity. For nighttime conditions, Class 3 apparel, meeting ANSI 107-2004, shall be worn along with a hardhat with 360° retro-reflectivity. Retro-reflective or flashing SLOW/STOP paddles shall be used, and the flagger station shall be illuminated to assure visibility in accordance with 652.6.2.”

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

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

Add the following:

652.5.1 Rumble Strip Crossing When lane shifts or lane closures require traffic to cross a permanent longitudinal rumble strip for 7 calendar days or less, the Contractor shall install warning signs that read “RUMBLE STRIP CROSSING” with a supplemental Motorcycle Plaque, (W8-15P).

When lane shifts or lane closures require traffic to cross a permanent longitudinal rumble strip for more than 7 calendar days, the Contractor shall pave in the rumble strips in the area that traffic will cross, unless otherwise directed by the Resident. Rumble strips shall be replaced prior to the end of the project, when it is no longer necessary to cross them.”

652.6 Nightwork Delete this section entirely and replace with the following:

652.6.1 Daylight Work Times Unless otherwise described in the Contract, the Contractor is allowed to commence work and end work daily according to the Sunrise/Sunset Table at: <http://www.sunrisesunset.com/usa/Maine.asp>. If the Project town is not listed, the closest town on the list will be used as agreed at the Preconstruction Meeting. Any work conducted before sunrise or after sunset will be considered Night Work.

652.6.2 Night Work When Night Work occurs (either scheduled or unscheduled), the Contractor shall provide and maintain lighting on all equipment and at all work stations.

The lighting facilities shall be capable of providing light of sufficient intensity to permit good workmanship, safety and proper inspection at all times. The lighting shall be cut off and arranged on stanchions at a height that will provide perimeter lighting for each piece of equipment and will not interfere with traffic, including commercial vehicles, approaching the work site from either direction.

The Contractor shall have available portable floodlights for special areas.

The Contractor shall utilize padding, shielding or other insulation of mechanical and electrical equipment, if necessary, to minimize noise, and shall provide sufficient fuel, spare lamps, generators, etc. to maintain lighting of the work site.

The Contractor shall submit a lighting plan at the Preconstruction Conference, showing the type and location of lights to be used for night work. The Resident may require modifications be made to the lighting set up in actual field conditions.

Prior to beginning any Night Work, the Contractor shall furnish a light meter for the Residents use that is capable of measuring the range of light levels from 5 to 20 foot-candles.

Horizontal illumination, for activities on the ground, shall be measured with the photometer parallel to the road surface. For purposes of roadway lighting, the photometer is placed on the pavement. Vertical illumination, for overhead activities, shall be measured with the photometer perpendicular to the road surface. Measurements shall be taken at the height and location of the overhead activity.

The following minimum light levels are required for Night Work lighting;

Level I: (5 foot-candles)

- All work operations by Contractor's personnel in areas of general construction operations, including layout and measurements ahead of the actual work, , cleaning and sweeping, , and seeding.
- Areas where crew movement may take place.
- Stockpile areas.
- At the area of lane closure, continuously through the lane closure, including the setup and removal of the closures.
- State Field Offices and facilities.

Level II: (10 foot-candles)

- On and around (360 degrees) construction equipment in the work zone.
- 50 feet ahead of, 100 feet behind, and along the sides of paving or milling machines in the work zone.

Level III: (20 foot-candles)

- Flagging Stations
- Pavement or structural crack and pothole filling.
- Pavement patching and repairs.
- Installation of signal equipment, or other electrical or mechanical equipment.
- Curb work, drainage, sidewalk work, excavation, landscaping, and any other work using ground labor, supervision, or inspection.

All workers shall wear safety apparel labeled as meeting the ANSI 107-2004 standard performance for Class 3 risk exposure.

The Contractor shall apply 2- inch wide retro-reflective tape, with alternating red and white segments, to outline the front back and sides of construction vehicles and equipment, to define their shape and size to the extent practicable. Pickup trucks and personal vehicles are exempt from this requirement. The Contractor shall furnish approved signs reading "Construction Vehicle - Keep Back" to be used on trucks hauling to the project when such signs are deemed necessary by the Resident. The signs shall be a minimum of 30 inches by 60 inches, Black and Orange, ASTM D 4956 - Type VII, Type VIII, or Type IX (prismatic).

All vehicles used on the project, including pickup trucks and personal vehicles, shall be equipped with amber flashing lights, visible from both front and rear, or by means of single, approved type, revolving, flashing or strobe lights mounted so as to be visible 360°. The vehicle flashing system shall be in continuous operation while the vehicle is on any part of the project.

The Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item.

Payment for lighting, vehicle mounted signs and other costs accrued because of night work will not be made directly but will be considered incidental to the related contract items.”

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

SECTION 653 POLYSTYRENE PLASTIC INSULATION

653.05 Placing Backfill In the second sentence; change “...shall be not less than 150 mm [6 in] loose measure.” to “...shall be not less than 250 mm [10 in] loose measure.” In the third sentence; change “...crawler type bulldozer of not more than 390 kg/m² [80 lb/ft²] ground contact pressure...” to “...crawler type bulldozer of not more than 4875 kg/m² [2000 lb/ft²] ground contact pressure...”

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

SECTION 656 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

656.5.1 If Pay Item 656.75 Provided Replace the second paragraph with the following: “Failure by the Contractor to follow Standard Specification or Special Provision - Section 656

and/or the Contractor's own Soil Erosion and Pollution Control Plan will result in a reduction in payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department's Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item."

SECTION 701 STRUCTURAL CONCRETE RELATED MATERIALS

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

SECTION 703 AGGREGATES

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

703.06 Aggregate for Base and Subbase Delete the first paragraph: "The material shall have..." and replace with "The material shall have a minimum degradation value of 15 as determined by Washington State DOT Test Method T113, Method of Test for Determination of Degradation Value (March 2002 version), except that the reported degradation value will be the result of testing a single specimen from that portion of a sample that passes the 12.5 mm [1/2 in] sieve and is retained on the 2.00 mm [No. 10] sieve, minus any reclaimed asphalt pavement used."

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

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

AGGREGATE GRADATION CONTROL POINTS

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

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

GRADATION CLASSIFICATION

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

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

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

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

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

703.22 Underdrain Backfill Material Change the first paragraph from “...for Underdrain Type B...” to “...for Underdrain Type B and C...”

Replace subsections 703.25 through 703.28 with the following:

“703.25 Stone Fill Stones for stone fill shall consist of hard, sound, durable rock that will not disintegrate by exposure to water or weather. Stone for stone fill shall be angular and rough. Rounded, subrounded, or long thin stones will not be allowed. Stone for stone fill may be obtained from quarries or by screening oversized rock from earth borrow pits. The maximum allowable length to thickness ratio will be 3:1. The minimum stone size (10 lbs) shall have an average dimension of 5 inches. The maximum stone size (500 lbs) shall have a maximum dimension of approximately 36 inches. Larger stones may be used if approved by the Resident. Fifty percent of the stones by volume shall have an average dimension of 12 inches (200 lbs).

703.26 Plain and Hand Laid Riprap Stone for riprap shall consist of hard, sound durable rock that will not disintegrate by exposure to water or weather. Stone for riprap shall be angular and rough. Rounded, subrounded or long thin stones will not be allowed. The maximum allowable length to width ratio will be 3:1. Stone for riprap may be obtained from quarries or by screening oversized rock from earth borrow pits. The minimum stone size (10 lbs) shall have an average dimension of 5 inches. The maximum stone size (200 lbs) shall have an average dimension of approximately 12 inches. Larger stones may be used if approved by the Resident. Fifty percent of the stones by volume shall have an average dimension greater than 9 inches (50 lbs).

703.27 Stone Blanket Stones for stone blanket shall consist of sound durable rock that will not disintegrate by exposure to water or weather. Stone for stone blanket shall be angular and rough. Rounded or subrounded stones will not be allowed. Stones may be obtained from quarries or by screening oversized rock from earth borrow pits. The minimum stone size (300 lbs) shall have minimum dimension of 14 inches, and the maximum stone size (3000 lbs) shall have a maximum dimension of approximately 66 inches. Fifty percent of the stones by volume shall have average dimension greater than 24 inches (1000 lbs).

703.28 Heavy Riprap Stone for heavy riprap shall consist of hard, sound, durable rock that will not disintegrate by exposure to water or weather. Stone for heavy riprap shall be angular and rough. Rounded, subrounded, or thin, flat stones will not be allowed. The maximum allowable length to width ratio will be 3:1. Stone for heavy riprap may be obtained from quarries or by screening oversized rock from earth borrow pits. The minimum stone size (500 lbs) shall have minimum dimension of 15 inches, and at least fifty percent of the stones by volume shall have an average dimension greater than 24 inches (1000 lbs).”

Add the following paragraph:

“703.32 Definitions (ASTM D 2488, Table 1).

Angular: Particles have sharp edges and relatively plane sides with unpolished surfaces

Subrounded: Particles have nearly plane sides but have well-rounded corners and edges

Rounded: Particles have smoothly curved sides and no edges”

SECTION 706
NON-METALLIC PIPE

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

SECTION 709
REINFORCING STEEL AND WELDED STEEL WIRE FABIC

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

SECTION 710
FENCE AND GUARDRAIL

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

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

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

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

The engineer may take one piece of guardrail, a backup plate, and end or buffer section from each 200 pieces in a lot, or from each lot if less than 200 pieces are included therein for determination of compliance with specification requirements. If one piece fails to conform to the requirements of this specification, two other pieces shall be tested. If either of these pieces fails to conform to the requirements of this specification, the lot of material represented by these samples shall be rejected. A lot shall be considered that quantity of material offered for inspection at one time that bears the same heat and coating identification."

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

SECTION 712
MISCELLANEOUS HIGHWAY MATERIALS

712.04 Stone Curbing and Edging Delete the existing and replace with the following: “Stone for curbing and edging shall be approved granite from acceptable sources. The stone shall be hard and durable, predominantly gray in color, free from seams that would be likely to impair its structural integrity, and of a smooth splitting character. Natural grain size and color variations characteristic of the source deposit will be permitted. Such natural variations may include bands or clusters of mineral crystallization provided they do not impair the structural integrity of the curb stone. The Contractor shall submit for approval the name of the quarry that is the proposed source of the granite for curb materials along with full scale color photos of the granite. Such submission shall be made sufficiently in advance of ordering so that the Resident may have an opportunity to judge the stone, both as to quality and appearance. Samples of curbing shall be submitted for approval only when requested by the Resident. The dimensions, shape, and other details shall be as shown on the plans.”

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

Add the following:

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

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

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

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

- (a) Aluminum steps-ASTM B221M, [ASTM B211] Alloy 6061-T6 or 6005-T5.
- (b) Reinforced plastic steps Steel reinforcing bar with injection molded plastic coating copolymer polypropylene. Polypropylene shall conform to ASTM D 4101.

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

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

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

The lamps shall be 650 lumens, 120 volt traffic signal lamps with sockets constructed to properly focus and hold the lamp firmly in position.

The housing shall have a rotatable sun visor not less than 175 mm [7 in] in length designed to shield the lens.

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

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

(b) Battery operated flashing lights shall be self-illuminated by an electric lamp behind the lens. These lights shall also be externally illuminated by reflex-reflective elements built into the lens to enable it to be seen by reflex-reflection of the light from the headlights of oncoming traffic. The batteries must be entirely enclosed in a case. A locking device must secure the case. The light shall have a flash rate of not less than 50 nor more than 60 flashes per minute from minus 30 °C [minus 20 °F] to plus 65 °C [plus 150 °F]. The light shall have an on time of not less than 10 percent of the flash cycle. The light beam projected upon a surface perpendicular to the axis of the light beam shall produce a lighted rectangular projection whose minimum horizontal dimension shall be 5 degrees each side of the horizontal axis. The effective intensity shall not have an initial value greater than 15.0 candelas or drop below 4.0 candelas during the first 336 hours of continuous flashing. The illuminated lens shall appear to be uniformly bright over its entire illuminated surface when viewed from any point within an angle of 9 degrees each side of the vertical axis and 5 degrees each side of the horizontal axis. The lens shall not be less than 175 mm [7 in] in diameter including a reflex-reflector ring of 13 mm [½ in] minimum width around the periphery. The lens shall be yellow in color and have a minimum relative luminous transmittance of 0.440 with a luminance of 2854° Kelvin. The lens shall be one-piece construction. The lens material shall be plastic and meet the luminous transmission requirements of this specification. The case containing the

batteries and circuitry shall be constructed of a material capable of withstanding abuse equal to or greater than 1.21 mm thick steel [No. 18 U.S. Standard Gage Steel]. The housing and the lens frame, if of metal shall be properly cleaned, degreased and pretreated to promote adhesion. It shall be given one or more coats of enamel which, when dry shall completely obscure the metal. The enamel coating shall be of such quality that when the coated case is struck a light blow with a sharp tool, the paint will not chip or crack and if scratched with a knife will not powder. The case shall be so constructed and closed as to exclude moisture that would affect the proper operation of light. The case shall have a weep hole to allow the escape of moisture from condensation. Photoelectric controls, if provided, shall keep the light operating whenever the ambient light falls below 215 lx [20 foot candles]. Each light shall be plainly marked as to the manufacturer's name and model number.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SECTION 717 ROADSIDE IMPROVEMENT MATERIAL

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

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

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

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

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

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

SECTION 722
GEOTEXTILES

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

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

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

APPENDIX A TO DIVISION 100

SECTION 1 - BIDDING PROVISIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SECTION 2 - FEDERAL EEO AND CIVIL RIGHTS REQUIREMENTS

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

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

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

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

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

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

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

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

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

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

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

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

§60-4.2 Solicitations

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

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

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

Goals for female participation in each trade 6.9%

Goals for minority participation for each trade

Maine

001 Bangor, ME 0.8%

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

002 Portland-Lewiston, ME

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

6403 Portland, ME 0.6%
(Cumberland, Sagadahoc)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SECTION 3 - OTHER FEDERAL REQUIREMENTS

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

A. Buy America

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

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

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

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

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

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

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

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

B. Materials

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

C. Standard FHWA Contract Provisions - FHWA 1273

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

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

I. GENERAL

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1. General:

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

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

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

2. Classification:

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

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

3. Payment of Fringe Benefits:

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

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

a. Apprentices:

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

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

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

b. Trainees:

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

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

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

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

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

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

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

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

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

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

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

VII. SUBLETTING OR ASSIGNING THE CONTRACT

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

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

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

VIII. SAFETY: ACCIDENT PREVENTION

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

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

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

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

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

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

December 14, 2005
Supersedes September 1, 2005

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

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

End of FHWA 1273



Environmental Summary Sheet

Pin: 17288.00
Town: Waterville-Oakland
CPD Team Leader: J Nichols
NEPA Complete: 9/8/10

Date Submitted: September 8, 2010

Section 106
PA-B
Special Conditions:

Section 4(f) and 6(f)
Section 4(f)
Review Complete
Section 6(f)
Not Applicable

Maine Department of Inland Fisheries and Wildlife Essential Habitat

Not Applicable **Timing Window: Not Applicable**

Section 7
No Effect
Species of Concern: Atlantic Salmon DPS
Atlantic Salmon-Critical Habitat
Comments/References: Not Applicable

Maine Department of Conservation/Public Lands, Submerged Land Lease
Not Applicable

Maine Land Use Regulation Commission
Not Applicable

**Applicable Standards and Permits are included with the contract*

Maine Department of Environmental Protection
Not Applicable

**Applicable Standards and Permits are included with the contract*

Army Corps of Engineers, Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.
Not Applicable

**Applicable Standards and Permits are included with the contract*

Coast Guard
Not Applicable

**Applicable Standards and Permits are included with the contract*

<input checked="" type="checkbox"/> Special Provisions Required		
Special Provision 105-Timing of Work Restriction	N/A <input checked="" type="checkbox"/>	Applicable <input type="checkbox"/>
Special Provision 656-Erosion Control Plan	N/A <input type="checkbox"/>	Applicable <input checked="" type="checkbox"/>
Special Provision 203-Dredge Spec	N/A <input checked="" type="checkbox"/>	Applicable <input type="checkbox"/>
General Note for Hazardous Waste	N/A <input type="checkbox"/>	Applicable <input checked="" type="checkbox"/>
Special Provision 203-Hazardous Waste	N/A <input checked="" type="checkbox"/>	Applicable <input type="checkbox"/>
Special Provision 105.9	N/A <input checked="" type="checkbox"/>	Applicable <input type="checkbox"/>

**All permits and approvals based on plans/scope as of: 9/8/10*