



Janet T. Mills
GOVERNOR

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0016

Bruce A. Van Note
COMMISSIONER

April 26, 2019
Subject: Pavement Milling, HMA
Overlay, Bridge Work with
Drainage & Safety Improvements
State Wins: 022420.00, 022422.00
& 023615.00
Location: **Falmouth, Portland &
South Portland**
Amendment No. 6

Dear Sir/Ms.:

Please make the following changes to the Bid Documents:

In the Bid Book:

REMOVE pages 17 – 23, Proposal Schedule of Items, 7 pages, dated 3/21/2019, and
REPLACE with the attached, revised Proposal Schedule of Items, 7 pages, dated 4/26/2019.

ADD the attached SPECIAL PROVISION – SECTION 424 – CRACK REPAIR with HOT POUR
MASTIC, 4 pages, dated January 30, 2017.

In the Plan Set:

On SHEET NUMBER 5 OF 6, JOINT MODIFICATION TYPE 2, in the bottom left hand corner,
CHANGE “PROPOSED BRIDGE JOINT MODIFICATION 2” to read “PROPOSED BRIDGE
JOINT MODIFICATION TYPE 2”. Make this change in pen and ink.

The following questions have been received:

Question: Will the Department consider removing all bridge items from the contract, 503.12, 503.13, 508.14, 518.60, 518.61, 520.232, 520.241 520.242, 520.244 and 524.50?

Response: The Department has reviewed the request and has determined that the bridge items will remain as part of the scope of work for this Contract.

Question: Sheet 6 of the bridge plans show a detail for sawcutting the header. Amendment 1 calls for 3” depth removal. Understanding this removal is the length of the joint from curb to curb., how wide is the removal? The drawing appears to only detail the first few inches of the header.

Response: The width of the concrete to be removed will vary, averaging 3 inches.

Question: The note on Sheet 6 calls out poly patch material with item number 424.38, is there a specification for this and is it incidental to a particular bid item? What material is on top of the poly patch as it is shaded differently?

Response: See the attached SPECIAL PROVISION – SECTION 424 – CRACK REPAIR with HOT POUR MASTIC, and new item 434.38. The material on top of the poly patch is your asphalt wearing surface.

Question: Where are items 518.60 and 518.61 located? It appears if the intended work is upward facing repairs.

Response: Both Items 518.60 and 518.61 are to be used where the steel joints are acceptable but the concrete header needs to be patched. Also see note 4 page 2 of plans for additional uses.

Question: Where does the Department anticipate using items no. 518.60 and 518.61?

Response: See previous response.

Question: What is the difference between the asphaltic plug joint and a type 4 joint modification?

Response: Asphaltic plug joint and type 4 joint modification are asphaltic plug joints. Asphaltic plug joint is replacing an existing APJ with a new APJ. Joint Modification type 4 is removing a compression seal joint concrete and steel and replacing it with an asphaltic plug joint.

Question: Is the dimension of 10'-0" on sheet 4, Type 4 Modification correct?

Response: The Type 4 joint modification should extend to the asphalt on either side of the joint and may vary in width.

Question: Page 4 of the plans, "Proposed Bridge Joint Modification Type 4" detail shows 10'-0" on each side of Center Line. Is this supposed to be 10"?

Response: See previous response.

Question: What material is required to repair the headers for the Type 2 joint modifications, concrete or QPL patching material?

Response: Per the 520 Bridge Joint Modification specification, Class LP concrete can be used as specified, or other materials on the QPL list may be used as approved by the Resident.

Question: The Type 2 joint modification details a varying steel block dimension. Any approximation on what this dimension will be?

Response: Where the steel extrusion is damaged the entire extrusion on both sides of the joint shall be removed and replaced. If there is a steel block behind the extrusion it will need to be replaced as well. The steel blocks will need to be replaced in kind and field verified.

Question: Is the "Proposed Bridge Joint Modifications 2" detail supposed to be labeled Joint Modification Type 2 Detail?

Response: Yes.

Question: Does Joint Modification Type 2 include replacing the steel and gland seal?

Response: Yes.

Question: What are the concrete repair dimensions for Joint Modification Type 2?

Response: The concrete repair dimensions vary. The deteriorated or delaminated concrete shall be removed to sound concrete to allow steel extrusions to be replaced to a minimum 3 inches of depth.

Question: What type of joint modification does the "Existing Armor Joint Detail" relate to.

Response: Existing gland seal Type 2

Question: On Page 6 of the plans, what material is installed over the poly patch? How is the poly patch paid for?

Response: HMA goes over poly patch. A new item is added for poly patch

Question: Is there a specification for the poly patch?

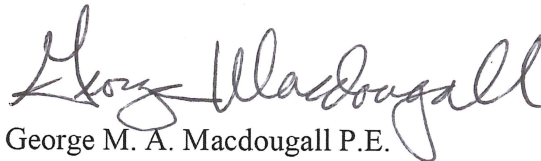
Response: New Spec provided

Question: Does the bridge membrane get replaced where the header repairs occur, if so what materials do we use and how does it get paid for?

Response: That is where the poly patch will be used. There will be a new item for poly patch

Consider these changes and information prior to submitting your bid on **May 1, 2019**.

Sincerely,

A handwritten signature in dark ink, appearing to read "George Macdougall", written in a cursive style.

George M. A. Macdougall P.E.
Contracts & Specifications Engineer

4/26/2019

Maine Department of Transportation

Proposal Schedule of Items

Page 1 of 7

Proposal ID: 022420.00

Project(s): 022420.00, 022422.00, 023615.00

SECTION: 1 HIGHWAY ITEMS

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0010	202.1212 REMOVE EXISTING HEADER CONCRETE	300.000 SF	_____	 _____	_____	 _____
0020	202.1231 SCARIFY CONCRETE HEADER	100.000 SF	_____	 _____	_____	 _____
0030	202.2023 REMOVING PAVEMENT SURFACE - MEDIUM CUT DRUM	271,000.000 SY	_____	 _____	_____	 _____
0040	202.205 RUMBLE STRIPS - SHOULDER	100,000.000 LF	_____	 _____	_____	 _____
0050	401.10 HOT MIX ASPHALT CONTINUOUS THERMAL PROFILING	LUMP SUM	LUMP SUM		_____	 _____
0060	403.208 HOT MIX ASPHALT 12.5 MM HMA SURFACE	70.000 T	_____	 _____	_____	 _____
0070	403.2081 12.5 MM POLYMER MODIFIED HOT MIX ASPHALT	8,800.000 T	_____	 _____	_____	 _____
0080	403.211 HOT MIX ASPHALT (SHIMMING)	1,150.000 T	_____	 _____	_____	 _____
0090	403.301 HOT BITUMINOUS PAVEMENT (ASPHALT RUBBER GAP-GRADED)	18,000.000 T	_____	 _____	_____	 _____
0100	409.15 BITUMINOUS TACK COAT - APPLIED	16,110.000 G	_____	 _____	_____	 _____
0110	410.151 EMULSIFIED ASPHALT SEALCOAT, APPLIED	162,000.000 SY	_____	 _____	_____	 _____

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			Dollars	Cents	Dollars	Cents
0120	424.22 ASPHALT RUBBER CRACK SEALER TYPE 2, APPLIED	75,000.000 LB	_____	_____	_____	_____
0130	424.3333 LOW MODULUS JOINT SEALER, APPLIED	90,000.000 LF	_____	_____	_____	_____
0135	424.38 CRACK REPAIR - HOT POUR MASTIC	3,000.000 LB	_____	_____	_____	_____
0140	503.12 REINFORCING STEEL, FABRICATED AND DELIVERED	1,000.000 LB	_____	_____	_____	_____
0150	503.13 REINFORCING STEEL, PLACING	1,000.000 LB	_____	_____	_____	_____
0160	508.14 HIGH PERFORMANCE WATERPROOFING MEMBRANE	LUMP SUM	LUMP SUM		_____	_____
0170	518.60 REPAIR OF VERTICAL SURFACES < 8 IN.	1,300.000 SF	_____	_____	_____	_____
0180	518.61 REPAIR OF VERTICAL SURFACES >= 8 IN.	40.000 CY	_____	_____	_____	_____
0190	520.232 EXPANSION DEVICE - ASPHALTIC PLUG JOINT	1,000.000 LF	_____	_____	_____	_____
0200	520.241 BRIDGE JOINT MODIFICATION TYPE 1	4.000 EA	_____	_____	_____	_____
0210	520.242 BRIDGE JOINT MODIFICATION TYPE 2	5.000 EA	_____	_____	_____	_____

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0220	520.244 BRIDGE JOINT MODIFICATION TYPE 4	13.000 EA	_____	_____	_____	_____
0230	524.50 TEMPORARY ROADWAY MAT	10.000 EA	_____	_____	_____	_____
0240	527.301 ENERGY ABSORBING SYSTEM (C-A-T)	9.000 EA	_____	_____	_____	_____
0250	603.165 15 INCH REINFORCED CONCRETE PIPE CLASS III	104.000 LF	_____	_____	_____	_____
0260	603.195 24 INCH REINFORCED CONCRETE PIPE CLASS III	72.000 LF	_____	_____	_____	_____
0270	603.55 CONCRETE PIPE TIES	17.000 GP	_____	_____	_____	_____
0280	604.182 CLEAN EXISTING CATCH BASIN AND MANHOLE	23.000 EA	_____	_____	_____	_____
0290	606.1305 31" W-BM GR, MID-WAY SPLICE FLARED TERMINAL	53.000 EA	_____	_____	_____	_____
0300	606.1307 BRIDGE TRANSITION (ASYMMETRICAL) - TYPE 1	8.000 EA	_____	_____	_____	_____
0310	606.178 GUARDRAIL BEAM	250.000 LF	_____	_____	_____	_____
0320	606.265 TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	15.000 EA	_____	_____	_____	_____

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			Dollars	Cents	Dollars	Cents
0330	606.353 REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	120.000 EA	_____	 _____	_____	 _____
0340	606.362 GUARDRAIL ADJUSTED	2,000.000 LF	_____	 _____	_____	 _____
0350	610.08 PLAIN RIPRAP	55.000 CY	_____	 _____	_____	 _____
0360	613.319 EROSION CONTROL BLANKET	1,500.000 SY	_____	 _____	_____	 _____
0370	618.14 SEEDING METHOD NUMBER 2	245.000 UN	_____	 _____	_____	 _____
0380	619.12 MULCH	245.000 UN	_____	 _____	_____	 _____
0390	619.14 EROSION CONTROL MIX	60.000 CY	_____	 _____	_____	 _____
0400	620.58 EROSION CONTROL GEOTEXTILE	70.000 SY	_____	 _____	_____	 _____
0410	627.18 12 " SOLID WHITE PAVEMENT MARKING	56,100.000 LF	_____	 _____	_____	 _____
0420	627.30 GROOVING FOR PAVEMENT MARKING	95,000.000 SF	_____	 _____	_____	 _____
0430	627.744 6" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	205,000.000 LF	_____	 _____	_____	 _____
0440	627.745 6" WHITE OR YELLOW POLYUREA PAVEMENT MARKING LINE (RECESSED)	156,000.000 LF	_____	 _____	_____	 _____

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0450	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	1,870.000 SF	_____	_____	_____	_____
0460	627.78 TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	211,000.000 LF	_____	_____	_____	_____
0470	627.781 TEMPORARY 6 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	580,000.000 LF	_____	_____	_____	_____
0480	629.05 HAND LABOR, STRAIGHT TIME	120.000 HR	_____	_____	_____	_____
0490	631.10 AIR COMPRESSOR (INCLUDING OPERATOR)	40.000 HR	_____	_____	_____	_____
0500	631.11 AIR TOOL (INCLUDING OPERATOR)	40.000 HR	_____	_____	_____	_____
0510	631.112 WELDING MACHINE (INCLUDING OPERATOR)	100.000 HR	_____	_____	_____	_____
0520	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	140.000 HR	_____	_____	_____	_____
0530	631.133 SKID STEER (INCLUDING OPERATOR)	50.000 HR	_____	_____	_____	_____
0540	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	280.000 HR	_____	_____	_____	_____
0550	631.32 CULVERT CLEANER (INCLUDING OPERATOR)	60.000 HR	_____	_____	_____	_____

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0560	639.18 FIELD OFFICE TYPE A	1.000 EA	_____	_____	_____	_____
0570	645.306 FLEXIBLE REFLECTORIZED DELINEATOR	180.000 EA	_____	_____	_____	_____
0580	652.30 FLASHING ARROW BOARD	9.000 EA	_____	_____	_____	_____
0590	652.33 DRUM	225.000 EA	_____	_____	_____	_____
0600	652.34 CONE	850.000 EA	_____	_____	_____	_____
0610	652.35 CONSTRUCTION SIGNS	7,800.000 SF	_____	_____	_____	_____
0620	652.36 MAINTENANCE OF TRAFFIC CONTROL DEVICES	140.000 CD	_____	_____	_____	_____
0630	652.38 FLAGGER	740.000 HR	_____	_____	_____	_____
0640	652.381 TRAFFIC OFFICER	100.000 HR	_____	_____	_____	_____
0650	652.41 PORTABLE CHANGEABLE MESSAGE SIGN	15.000 EA	_____	_____	_____	_____
0660	652.45 AUTOMATED TRAILER MOUNTED SPEED LIMIT SIGN	6.000 EA	_____	_____	_____	_____
0670	652.46 SEQUENTIAL FLASHING WARNING LIGHTS	80.000 EA	_____	_____	_____	_____

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0680	652.47 TEMPORARY PORTABLE RUMBLE STRIP	12.000 GP	_____	_____	_____	_____
0690	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM	LUMP	SUM	_____	_____
0700	659.10 MOBILIZATION	LUMP SUM	LUMP	SUM	_____	_____
Section: 1			Total:		_____	_____
			Total Bid:		_____	_____

SPECIAL PROVISION
SECTION 424
 CRACK REPAIR with HOT POUR MASTIC

Description. This work shall consist of preparing and repairing areas identified for crack repair in existing bituminous or concrete pavement layers using hot pour mastic. The hot pour mastic shall be supplied in solid form in boxes containing pre-measured binder blended with aggregates. Products to be used will be subject to approval by the Department. Repair areas will be free of sand, vegetation, water, and any previously placed rubber crack seal or crack repair materials, including cold patch. Preparation, such as cleaning and drying of the cracks by use of oil free compressed air and hot air lance shall be considered included the price per pound of crack repair mastic. Routing or any pavement removal required will be paid for under the appropriate item as described in this Special Provision.

MATERIALS

The hot pour mastic materials are hot-applied, pourable, self-adhesive mastics blended with aggregates designed for maintenance and repair of asphalt and Portland cement concrete pavements. The hot pour mastic materials are composed of highly modified polymer asphalt binder and fine graded lightweight aggregate, or standard weight aggregates as required by the application.

The mastic materials shall be delivered in the manufacturer's original container. The material shall be pre-packaged with the manufacturers name and product name marked on each container. The materials shall conform to the following requirements:

Parameter

Color	Black
Pourability @ 400F (PTM1)*	1000-1400 gm
Stability @ 158F (PTM2)	.6in. max
Flexibility @ Low Temperature (PTM3)	Pass @ -20F
Adhesion @77F (PTM4)	15psi min.
Specific Gravity (ASTM D792)	1.35max.
Skid Resistance, BPN (ASTM E303)	40 min.
Minimum Application Temperature	375°F
Maximum Application Temperature	410°F

The density of the mastic with fine lightweight aggregate is 76 pcf (+/- 3%) and weight per gallon is 10.2 lb/ gal at 60°F. (ref: PolyPatch or equivalent)

The density of the mastic with standard weight aggregate is 116 pcf (+/- 3%) and the weight per gallon is 15.5 lbs/gal at 60°F. (ref: MasticOne or equivalent)

EQUIPMENT

Equipment Equipment used in the performance of the work shall be subject to the Departments or authorized representative's approval and shall be maintained in a satisfactory working condition at all times.

(a) Air Compressor: Air compressors shall be portable and capable of furnishing not less than 4 yd³ of air per minute at not less than 90 psi pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water.

(b) Sweeper: Manually operated, gas powered air-broom or self-propelled sweeper designed especially for use in cleaning pavements shall be used to remove debris, dirt, and dust from the cracks.

(c) Hot Air Lance: Should operate with propane and compressed air in combination at 2000°F - 3000°F, exit air heated at 1000 ft/s. The lance should draw propane from no smaller than a 100 lb tank using separate hoses for propane and air draw. The hoses shall be wrapped together with reflectorized wrap to keep them together and to protect workers in low light situations.

(d) Hand Tools: Shall consist of Boxed or V-shaped squeegee, brooms, shovels, metal bars with chisel shaped ends, and any other tools which may be satisfactorily used to accomplish this work.

(e) Melting Kettle:) The unit used to heat the mastics shall be a double boiler unit equipped with continuous horizontal full sweep agitation and have separate thermostatic control devices that will automatically regulate hot oil and material temperature. Separate digital readouts shall display the temperatures of the hot oil and material. The kettle shall be equipped with mixing paddles, blending augers, or other satisfactory means of agitating, mixing, and blending the aggregates and mastic together. The kettle must be equipped with thermostatic control calibrated between 200°F and 550°F.

If required in the contract the router or crack saw equipment for preparing cracks shall be of a rotary impact type cutter, equipped with a carbide bit or a diamond-blade crack saw which will provide a reservoir of specified dimensions.

An application wand may be required for the work type, and shall apply a controlled flow of material via an insulated or heated hose. The nozzle shall distribute the material as called for in this specification. A pressure regulator shall be provided to regulate pressure at the nozzle. A bypass line into the holding tank is required for use when the nozzle is shut off.

CONSTRUCTION REQUIREMENTS

Weather Hot Pour Mastics shall not be applied on a wet or damp surface, or when the atmospheric temperature is below 45°F in a shaded area at the job site, or when weather conditions are otherwise unfavorable to proper crack repair procedures.

Preparation All cracks shall be prepared to receive the mastic material. All cracks must be cleaned of debris, dried and heated to ensure optimal bonding of the sealant material to the existing pavement and crack edges. All cracks shall be flush filled with pre-blended mastic with minimal overband in the same workday as directed by the Resident or authorized representative.

Cracks of less than 1 inch in width shall be shaped as directed by using a crack router or crack saw to a minimum 1 inch width and depth. The router or saw shall be guided so that the crack lies entirely within the routed channel. All material routed or sawn from the cracks shall immediately be removed from the crack and surrounding paved area by use of compressed air, sweeping, or combination of both.

Cracks greater than 1 inch in width shall be thoroughly cleaned by use of compressed air and dried by use of a hot air lance. Any loose or broken materials will be removed from the repair area before placing mastic materials. If it is determined that additional pavement removal or preparation is needed by means of milling, sawing, or cutting of existing pavement the work will be paid under an appropriate pay item. All materials routed, sawn, cut, or otherwise removed from the areas to be repaired shall immediately be removed from the crack and surrounding paved area by use of compressed air sweeping, or combination of both.

Cracks 1 inch in width to 3 inch in width shall be filled with mastic pre-blended with fine lightweight aggregate.

Cracks 3 inch in width to 6 inch width, or repairs that are more structural in nature, such as potholes, depressions, fills or repairs around utility adjustments shall be filled with mastic pre-blended with standard weight aggregates. Generally repairs wider than 6 inches, or that extend below the surface layer may require additional pavement removal or other preparation.

All mastic materials shall be heated to between 380°F and 410°F and thoroughly agitated prior to application. A non-contact infrared thermometer shall be used periodically to monitor the temperature of the material as it exits the kettle. Material may not be used if it is heated beyond the safe heating temperature of 410°F, exceeds the recommended pot life, or is reheated more than one time.

The mastics may be applied to large repair areas when the material has been heated to the lower end of the temperature range to minimize material flow and cooling time.

Mastics shall be applied to the repair areas directly from the melting kettle chute, wand or other conveyance method filled from the kettle. If bucketed, material cooling during transfer must be minimized.

The repair area shall be filled flush to the pavement surface. The material shall be poured into the repair area and worked using boxed or v-shaped squeegees, tools, lutes or heated irons. Care should be taken not to over work the material and cause unequal dispersion of the aggregate within the repair. The material may be applied in multiple lifts to accommodate material shrinkage or flow during cooling.

After the material has been applied to the repair, indirect heating by torch or hot air lance can be used to heat the edges and ensure a watertight seal. Do not burn, scorch or ignite the mastic or adjoining pavement when heating.

Do not allow traffic on the repaired areas for ½ hour, or until the material has cooled enough to support traffic and tracking is minimal.

Quality of Work Excess mastic shall be removed from the pavement by approved methods and discarded. Any work determined to be below normal acceptable standards will not be accepted, and will be corrected and/or replaced as directed by the Resident or authorized representative.

Basis of Payment The accepted quantity of Crack Repair with Hot Pour Mastic will be paid for at the contract unit price per pound. This price will be full compensation for furnishing the appropriate material type for the repair being done, heating, placing and finishing the mastic materials, as well as cleaning and preparing the areas for installation of the mastic, including the use of compressed air, hot air lance, and any sweeping required to remove contaminants from and dry the areas to be treated. Areas identified as requiring pavement removal by means of cutting, sawing, grinding, or routing will be paid under an appropriate contract item.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
424.38 Crack Repair, Hot Pour Mastic	Pound
424.42 Crack Routing	Linear Foot