



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

Janet T. Mills
GOVERNOR

Bruce A. Van Note
COMMISSIONER

July 1, 2022
Subject: Large Culvert Improvements
State WIN: 025409.00
Location: **Saint John Plantation**
Amendment No. 1

Dear Sir/Ms.:

Please make the following changes to the Bid Documents:

In the Bid Book:

REMOVE pages 15 – 22, CONTRACT AGREEMENT, OFFER & AWARD, 2 copies, 4 pages each, and **REPLACE** with the attached, revised CONTRACT AGREEMENT, OFFER & AWARD, 2 copies, 4 pages each.

REMOVE page 35, SPECIAL PROVISION - SECTION 107 - PROSECUTION AND PROGRESS - (Contract Time – Calendar Days), 1 page, dated June 6, 2022, and **REPLACE** with the attached, revised SPECIAL PROVISION - SECTION 107 - PROSECUTION AND PROGRESS - (Contract Time – Calendar Days), 1 page, dated June 29, 2022.

ADD the attached SPECIAL PROVISION - SECTION 502 - ANNULAR SPACE GROUTING, 3 pages, dated June 27, 2022.

REMOVE pages 70 - 71, SPECIAL PROVISION - SECTION 509 – CULVERT SLIPLINING, 2 pages, dated March 30, 2000, and **REPLACE** with the attached SPECIAL PROVISION - SECTION 603 – Culvert Slip Lining - (Plastic Pipe), 4 pages, dated June 27, 2022.

The following question has been received:

Question: Would shotcrete be considered an acceptable alternative lining method instead of the sliplining?

Response: No, the Department's preference for this location is a Slip Line.

Consider these changes and information prior to submitting your bid on **July 13, 2022**.

Sincerely,

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

CONTRACT AGREEMENT, OFFER & AWARD

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

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

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

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, **WIN. 025409.00 for Large Culvert Improvements in St. John Plantation, County of Aroostook, 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 15, 2022** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

C. Price.

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

\$ _____ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, *Standard Specifications, March 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications March 2020 Edition*, *Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

WIN. 025409.00 - for Large Culvert Improvements - in St. John Plantation County of Aroostook, State of Maine, on which bids will be received until the time specified in

the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items."

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

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items," which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the *Standard Specifications, March 2020 Edition*, and as addressed in the contract documents.

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

Third: To begin the Work as stated in Section 107.2 of the *Standard Specifications March 2020 Edition* and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Fifth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

Date

(Signature of Legally Authorized Representative
of the Contractor)

Witness

(Name and Title Printed)

G. Award.

Your offer is hereby accepted.
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: Bruce A. Van Note, Commissioner

Witness

CONTRACT AGREEMENT, OFFER & AWARD

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

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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 15, 2022** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

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

\$ _____ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

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the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items."

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

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items," which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the *Standard Specifications, March 2020 Edition*, and as addressed in the contract documents.

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

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IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

Date

(Signature of Legally Authorized Representative
of the Contractor)

Witness

(Name and Title Printed)

G. Award.

Your offer is hereby accepted.
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: Bruce A. Van Note, Commissioner

Witness

SPECIAL PROVISION
SECTION 107
PROSECUTION AND PROGRESS
(Contract Time – Calendar Days)

This Contract shall be completed within 30 continuous calendar days. The Contractor may begin work **August 1st** in accordance with Standard Specification 104.4.2 and upon approval of all required submittals. The Contract Completion Date will be no later than **October 15th, 2022**

At least 21 calendar days prior to the desired Begin Construction Date, the Contractor shall submit an **electronic copy of their signed request to begin work and the Begin Construction Date**. This signed request shall be sent read receipt through **email** with their **Schedule of Work**, in accordance with Standard Specification 107.4.2, to Ryan.Sullivan@Maine.gov, Shawn.Smith@Maine.gov, and Scott.Bickford@Maine.gov. The Contractor shall notify all utility contacts listed in the 104 Special Provision and provide the utility contacts the submitted schedule of work within 2 calendar days of the schedule of work submittal. **A penalty in the amount of \$500/day will be assessed for each calendar day or partial calendar day beyond August 1st that the schedule of work is not received.** Upon receipt of the schedule of work, a pre-construction meeting will be scheduled. A Contract Modification will be executed to document the new Contract Completion Date based upon the Begin Construction Date. The modified Contract Completion Date shall not exceed the Contract Completion Date specified in this special provision.

The Contractor may request to adjust the submitted schedule of work and Begin Construction Date once after the initial submittal. The Department will allow adjustments in the Begin Construction Date of up to seven calendar days if the request is made at least 14 calendar days prior to the updated Begin Construction Date. This signed request shall be sent read receipt through **email** with their **Schedule of Work**, in accordance with Standard Specification 107.4.2, to Ryan.Sullivan@Maine.gov, Shawn.Smith@Maine.gov, and Scott.Bickford@Maine.gov. The Contractor shall notify all utility contacts listed in the 104 Special Provision and provide the utility contacts the updated schedule of work within 2 calendar days of the request to adjust the Begin Construction Date.

SPECIAL PROVISION
SECTION 502
ANNULAR SPACE GROUTING

Description This work shall consist of providing and placing non-shrink grout as described below. The annular space (void between the liner and host pipes) shall be completely grouted to support the liner and provide long-term stability. The Contractor shall provide testing of the materials and methods for compliance with the following requirements. Prior to any work the Contractor shall furnish an acceptable plan for performing and testing the grouting.

Preservation After slip liner installation but prior to grouting, bulk heading of the ends and venting shall be constructed.

After bulk heading of the ends and venting, test the integrity of the installed liner pipe and constructed bulkheads for any leaks.

Planned Vents The Contractor shall submit shop drawings or indicate in the installation plan the proposed number and location of vents relative to the pipe diameter and stiffness for the grouting operations.

Materials The grout material shall consist of Portland cement (Portland cement and fly ash) and/or additives as described in the following Subsections of Division 700 – Materials:

Portland Cement	701.01
Water	701.02
Air-Entraining Admixtures	701.03
Fine Aggregate	703.01
Fly Ash	701.10
Chemical Admixtures	701.04
Accelerating Admixtures	AASHTO M-194 Type “C”

- (a) Compressive Strength The grout shall have a minimum penetration resistance of 100psi in 24 hours when tested in accordance with ASTM C403 and a minimum compressive strength of 500psi in 28 days when tested in accordance with ASTM C495 or C109.
- (b) Performance Requirements The Contractor shall submit the proposed grout mix, methods, plan, and criteria of the grouting operations. The grouting system shall have sufficient gauges, monitoring devices, and tests to determine the effectiveness of the grouting operation and to ensure compliance with the liner pipe specifications and design parameters.

(c) Mix Designs One or more mixes shall be developed to completely fill the annular space based on the following requirements:

- (1) Size of annular void
- (2) Void (size) of the surrounding soil
- (3) Absence or presence of groundwater
- (4) Sufficient strength and durability to prevent movement of the liner pipe, and
- (5) Provide adequate retardation.

Qualifications The contractor shall demonstrate to the Resident its worker's capabilities of filling the annular space and performing their work in conformance with the Plans and the Specifications.

Grouting Equipment The materials shall be mixed in equipment of sufficient size and capacity to provide the desired amount of grout material for each state in a single operation. The equipment shall be capable of mixing the grout at densities required for the approved procedure and shall also be capable of changing density as directed by field conditions any time during the grouting operation.

Injection Procedure and Pressure The gauged pumping pressure shall not exceed the liner pipe Manufacturer's approved recommendations. Pumping equipment shall be of a size sufficient to inject grout at velocity and pressure relative to the size of the annular space. Gauges to monitor grout pressure shall be attached immediately adjacent to each injection port. The gauge shall conform to an accuracy of not more than one-half percent error over the full range of the gauge. The range of the gauge shall not be more than 100 percent greater than the design grout pressure. Pressure gauges shall be instrument oil filled and attached to a saddle type diaphragm seal (gauge saver) to prevent slogging with grout. All gauges shall be certified and calibrated in accordance with ANSI B40 Grade 2A.

Test Section The Contractor shall be required to perform a test on each type of grout and grout system proposed to be used.

Submittals and Required Calculations The Contractor shall submit the following to the Resident for review and approval at least 30 working days prior to the start of the grouting operation:

- (1) The proposed grouting mix
- (2) The proposed densities and viscosities
- (3) Initial set time of the grout
- (4) The proposed grouting method
- (5) The maximum of injection pressures
- (6) The 24-hour and 28-day compressive strengths
- (7) Proposed grout stage volumes

- (8) Bulkhead designs
- (9) Buoyant force calculations
- (10) Flow control
- (11) Provisions for service connections
- (12) Pressure gauge certification
- (13) Vent location plans
- (14) Certification that grouting plan conforms with all provisions, cautions, and restrictions of the liner manufacturer.

These shall be submitted as a complete package for a single or sample section only. The Contractor shall notify the Resident of any changes to be made in grouting.

Method of Measurement Grout satisfactorily placed and accepted will be done so using the delivered quantity with truck slips as measurement for payment.

Basis of Payment The accepted work done under Annular Space Grouting including forms, berms, bulkheads, pumping, and incidents necessary to complete the work **will be considered incidental to Item 509.202 Culvert Slip Lining.**

SPECIAL PROVISION
SECTION 603
Culvert Slip Lining
(Plastic Pipe)

Description This work shall consist of inserting a new pipe (liner pipe) into an existing culvert (host pipe), sealing the annular space (void between the liner and host pipes) at the end of the existing culvert, and preparing to fill the annular space with grout in accordance with the plans and specifications. The Contractor shall utilize the following new pipe to be inserted into the existing culvert:

- A Snap-Tite plastic pipe or any other HDPE culvert that meets the requirements under the Materials and Pipe Design sections of this Special Provision.

General Construction Requirements Handle and assemble all elements of the structure in accordance with the manufacturer's instructions, except as modified herein, on the plans or as ordered by the Resident in writing. The Contractor shall submit fabrication details including assembly drawings, pipe insertion methods, internal joint coupling and bracing details, to the Resident for approval. The Resident will be allowed a minimum of 10 working days to review the Contractor's submittal. Special consideration should be paid to joint location and bracing requirements for direct bury extension at the inlet end.

The Contractor will dewater, inspect, and clean the existing culvert. The Contractor shall provide strutting and bracing to insure the stability of the existing culvert during this operation. The Contractor shall also take all reasonable precautions to limit grout leakage including, but not limited patching holes and sealing cracks.

The Contractor may push or pull, or use a combination of both, to get the new pipe sections into place. When pushing is used, the jacking force must be uniformly distributed around the perimeter of the liner pipe to avoid the possibility of damaging the liner pipe due to a concentrated jacking load. The Contractor shall utilize skids in the existing culvert, to facilitate placement of the new pipe sections. The displacement between adjacent sections of new pipe shall not exceed 0.5".

The new pipe shall be braced against the existing culvert so that the new pipe shall remain in place during grouting operations. The Contractor is responsible for assuring that the new pipe does not "float" during grouting operations. A minimum 1" of grout shall be between the new pipe and the existing culvert. Bracing material shall not significantly impede grout flow into the annular space.

Seals Place plywood or material of equivalent strength in the annular space at each end of the existing culvert to retain grout. Seals may be left in place providing they do not interfere with bank protection or fish passage.

Materials

Pipe and Fittings - Reference Specifications:

ASTM F-714: Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR). Based on outside diameter

CSA B 137.1: Polyethylene Pipe, Tubing and Fittings for Cold Water Pressure Services.

ASTM D-3350: Standard Specification for Polyethylene Plastics Pipe and Fittings Materials.

ASTM D-3035: Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR). Based on Controlled Outside diameter

ISO 9002: Model for Quality Assurance in Production and Installation.

AWWA C906: Standard for Polyethylene (PE) Pressure Pipe and Fittings 4 inch through 63 inches for Water Distribution.

1. The new pipe shall be manufactured from polyethylene resin compound with a minimum cell classification of PE 345464C in accordance with ASTM D3350. This material shall have a long-term hydrostatic strength of 1600 psi when tested and analyzed by ASTM D2837, and shall be a Plastic Pipe Institute (PPI) listed compound.
2. The raw material shall contain a minimum of 2%, well dispersed, carbon black. Additives, which can be conclusively proven not to be detrimental to the pipe may also be used, provided the pipe produces meets the requirements of this standard.
3. The new pipe shall contain no recycled compound except that generated in the manufacturer's own plant from resin of the same specification and from the same raw material supplier.
4. Compliance with the requirements of this paragraph shall be certified in writing by the pipe supplier.
5. Manufacturer's Quality System shall be certified by an appropriate independent body to meet the requirements of the ISO 9002 Quality Management Program.

Pipe Design The new pipe shall be designed as a standalone direct burial pipe. The new pipe shall be able to support the earth and live load by itself with no additional capacity from the existing culvert or the annular space grout.

1. The new pipe shall be designed in accordance with the relationships of the ISO-modified formula (see ASTM F714).
2. The design pressure rating P shall be derived using the ISO modified formula and shall be its normal working pressuring in pounds per square inch at temperatures up to 730F.
3. The Hydrostatic Design Stress shall be 800 psi for PE 3408 materials.
4. The dimensions of the new pipe shall be as specified in manufacturer's literature.

Marking The following shall be continuously indent printed on the new pipe or spaced at intervals not exceeding 1.5 m (5 feet).

1. Name and/or trademark of the pipe manufacturer.
2. Nominal pipe size
3. Dimension Ratio
4. The letters PE followed by the polyethylene grade per ASTM D3350, followed by the Hydrostatic Design basis in 100's of psi e.g. PE 3408.
5. Manufacturing Standard Reference e.g. ASTM F 714
6. A production code from which the date and place of manufacture can be determined.

Joining Methods The polyethylene pipe should be joined by extrusion welding or other means in accordance with the manufacturer's recommendations.

The pipe manufacturer shall provide an outline of recommended field quality control procedures to be performed on the polyethylene system components.

Construction Requirements The sections of new pipe shall be assembled and joined together prior to insertion into the existing culvert. Assembly shall be accomplished above ground, either at the jobsite or at a remote location.

The polyethylene liner pipe may be inserted into the existing culvert with a power winch and steel cable connected to the end of the liner pipe in an appropriate manner. The liner pipe manufacturer's recommendations should be followed regarding the most appropriate method of

attaching the cable to the liner pipe. If required, a special pulling head may be attached to the end of the liner pipe to facilitate easy connection of the pulling cable.

Basis of Payment Payment for culvert slip lining will be made at the contract linear foot price. Culvert slip lining includes full compensation for furnishing all labor, materials, and equipment necessary to manufacture, assemble and install the liner pipe complete and in place, including but not limited to dewatering, cleaning, inspecting, strutting, bracing, skids, concrete grout filler, joint bands, seals, installing grout nipples, plugs, fittings, hardware, and damaged pipe repair. Grout used to fill the annular space will be completed according to Special Provision Section 502, Annular Space Grouting.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
509.201 Culvert Slip Lining	Linear foot