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

JOHN ELIAS BALDACCI
GOVERNOR

DAVID A. COLE
COMMISSIONER

October 14, 2008
Subject: **Freeport**
Federal Project No.IM-1589(200)E
State Pin No.015892.00
Amendment No. 2

Dear Sir/Ms:

In the Bid Book (pages 39 through 42), **REMOVE** "SPECIAL PROVISION, SECTION 603, CULVERT SLIPLINING, (Plastic Pipe), 4 pages dated April 2, 2008 and **REPLACE** with the attached, new "SPECIAL PROVISION, SECTION 603, CULVERT SLIPLINING, (Plastic Pipe), 4 pages dated October 14, 2008.

The following question has been received:

Question: In reviewing item no. 509.201, culvert Sliplining, I noticed a spec on extrusion welding of HDPE (Spirolite, Weholite, HDPE). Then the spec goes back to the "Snaptite" spec. Will HDPE pipe other than "Snaptite" be allowed on this project?

Response: Yes, see the attached new special provision.

Consider this change and information prior to submitting your bid on **October 15, 2008**

Sincerely,

Scott Bickford
Contracts & Specifications Engineer

SPECIAL PROVISION
SECTION 603
CULVERT SLIPLINING
(Plastic Pipe)

Description: This work shall consist of inserting a new pipe into an existing culvert and constructing seals at the ends of the new pipe and filling the voids between the new and existing culvert pipe with grout in accordance with the plans and specifications. The Contractor shall utilize the following new pipe to be inserted into the existing pipe:

PIN# 15892.00 Freeport Interstate 295

1) A Snap-Tite plastic pipe (51" ID) diameter (58" OD) 194' long for each of three culverts or any other HDPE culvert that passes this Special Provision under Materials and Pie Design. The culvert shall be the largest size pipe that can be installed inside of the existing pipe and allow for a minimum 1" grout to placed around the entire circumference of the pipe.

2) Total Length = 582' with a square end (no miter). 194' for each culvert.

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.

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 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 pipe due to a concentrated jacking load. The Contractor shall utilize skids in the existing culvert, to facilitate placement of the pipe sections. The displacement between adjacent pipe ends shall not exceed 13 mm [1/2 in].

The pipe sections 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 pipe does not **"Float"** during the grouting operation. A minimum 25 mm [1 in] of grout shall be between the new and existing culverts. Bracing material shall not significantly impede grout flow into the annular space between the culverts.

Seals: Place plywood or material of equivalent strength, in the annular space at each end of the culvert, to retain grout. Seals may be left in place providing they do not interfere with bank protection and/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: Polythylene 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 inch for Water Distribution.

1) The 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 pipe shall contain no recycled compound except that generated in the manufacturer's own plant form 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 pipe shall be designed as a stand alone direct burial pipe. The pipe shall be able to support the earth and live load by itself with no additional capacity from the existing pipe or the annular space grout.

1. The 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 73^0F.

3. The Hydrostatic Design Stress shall be 800 psi for PE 3408 materials.

4. The pipe dimensions shall be as specified in manufacturer's literature.

Marking:

The following shall be continuously indent printed on the 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 pipe shall be assembled and joined together prior to insertion into the existing culvert. Assembly shall be accomplished above ground, either at the job-site or at a remote location. The pipe shall be welded on both the interior surface and exterior surface

The polyethylene liner pipe may be inserted into the existing pipe with a power winch and steel cable connected to the end of the pipe in an appropriate manner. The 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 paid for at the contract lump sum price. Culvert slip-lining includes full compensation for furnishing all labor, materials, equipment necessary to manufacture, assemble and install the pipe/culvert 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 and backfill voids will be completed according to Special Provision Section 502, Annular Space Grouting.

Payment will be made under:

Pay Item	Pay Unit
509.201 Culvert Slip Lining	Linear foot