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

Janet T. Mills
GOVERNOR

Bruce A. Van Note
COMMISSIONER

July 30, 2025
Subject: Woodland Fish Passage
WIN: PH20250514WFP
Location: **Baileyville**
Amendment No. 11

Dear Sir/Ms.:

REMOVE, Sections 01 20 00, 31 63 33, and 31 68 00 of "Exhibit C Design Specifications" dated May 22, 2025, and **REPLACE** with attached revised Sections 31 63 33 and 31 68 00 of "Exhibit C Design Specifications" dated July 30, 2025. Refer to revision bars for updates.

REMOVE, "Price Component Schedule" dated June 3, 2025, and **REPLACE** with attached revised "Price Component Schedule" dated July 30, 2025. Estimated quantities have been included for micropile segments and grout take for unit pricing purposes that do not directly match the depth limit in Note 10 of Sheet S-458; to clarify, this requirement still applies and refers to the capability of tooling and equipment to drill to double depth. Refer to revision bars for updates.

The following question was deferred from Amendment No. 10:

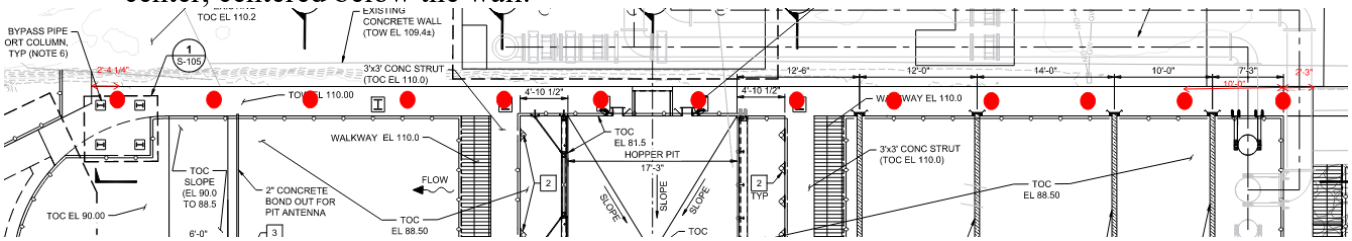
112. **Question:** Section 36 of Exhibit B-Woodland Pulp LLC General Requirements states, "The Contractor agrees to be the generator of any hazardous waste that results from his activity and agrees and is required to comply fully with all federal, state and/or local statues, regulations and ordinances." Please confirm that Woodland Pulp LLC will be considered the generator of any contaminated or hazardous waste which is currently owned or part of the property owned by Woodland Pulp LLC. For example, Woodland Pulp LLC would be considered the generator of lead waste if it was determined that paint on existing steel to be removed or blasted and painted was lead-based. Similarly, if the soil in the berm shown for removal on the drawings is found to contain contaminated or hazardous material, Woodland Pulp LLC would be considered the generator of such waste. Please confirm the contractor is only responsible as the generator for materials and consumables brought on site by the contractor to perform the contracted scope of work.

    Response: WPLLC is not generating the hazardous waste resulting from the activity but is responsible to track the disposal, and the WPLLC General Requirements section referenced in this question shall therefore be assumed accurate. WPLLC will work with the awarded Contractor to ensure that the appropriate documentation is selected. The Contractor is responsible for hazardous materials testing and abatement by a licensed contractor with proper documentation. Refer to Division 100 General Conditions Section 105.8.4.

The following questions have been received:

124. Question: Can the location of the (13) rock anchors proposed along the toe of the existing retaining wall shown on sheet S-100 be shown?

Response: Rock anchors will be added to S-100 and S-101. They are spaced at 10' on-center, centered below the wall.

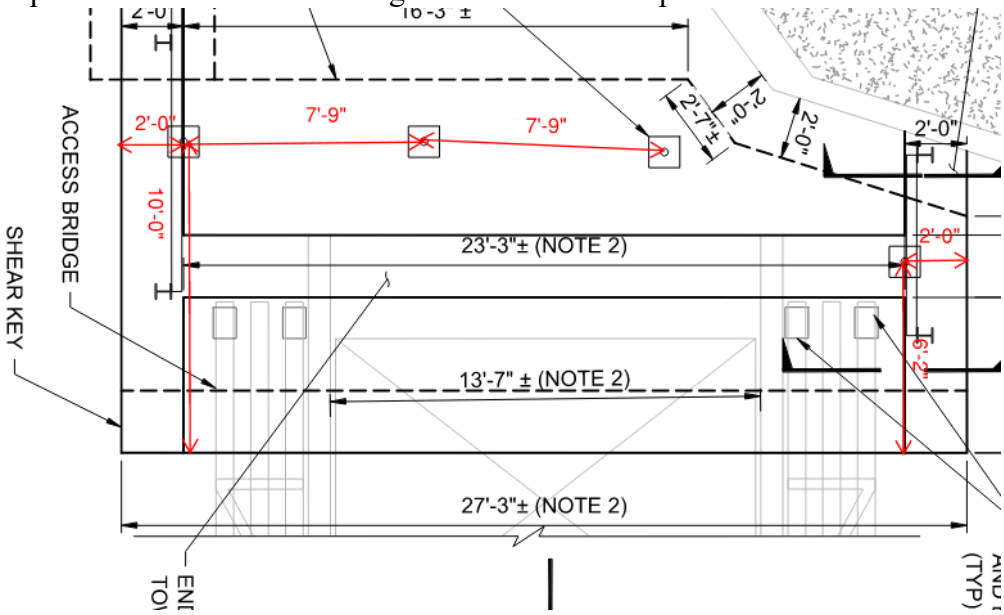


125. Question: Sheet S-102, Note 1, Can the Contractor elect to not install any rock anchors (post tensioned or otherwise) to support the existing wall?

Response: Yes, but only as long as the wall is stable during construction.

126. Question: On Sheet S-180, Access Bridge Abutment 1 Plan detail, please indicate the location of the rock anchors in plan view that are shown on detail D Sheet S-181. Plan view location of these will be necessary for layout.

Response: Refer to the following dimensional markups:



127. Question: Sheet S-181, Rock Anchor Note 5, please confirm that Grade 75 thread bar or hollow bar is acceptable in lieu of Grade 60 deformed bar.

Response: A substitution must be approved by the Engineer and may be proposed as value engineering after award.

128. Sheet S-182, Note 4, please clarify that this is a typographic error and domestic steel is allowed to be used from any legit supplier.

Response: The size would have to be reduced from 52 mm to 51 mm diameter.

B7X1 Domestic Hollow Injection Bar

BAR DIAMETER	AVERAGE INNER DIAMETER	MINIMUM NET AREA THROUGH THREADS	MINIMUM ULTIMATE STRENGTH	MINIMUM YIELD STRENGTH	NOMINAL WEIGHT	PART NUMBER
32 mm (1-1/4")	0.787" (20.0 mm)	0.556 in² (359 mm²)	58.4 kips (260 kN)	47.2 kips (210 kN)	2.1 lbs/ft (3.1 kg/m)	B7X1-032N
32S mm (1-1/4")	0.626" (15.9 mm)	0.776 in² (501 mm²)	81.5 kips (363 kN)	66.0 kips (294 kN)	2.7 lbs/ft (4.0 kg/m)	B7X1-032S
38 mm (1-1/2")	0.830" (21.1 mm)	1.067 in² (688 mm²)	112 kips (498 kN)	90.7 kips (404 kN)	3.76 lbs/ft (5.6 kg/m)	B7X1-038N
51 mm (2")	1.187" (30.1 mm)	1.795 in² (1158 mm²)	188 kips (837 kN)	152 kips (677 kN)	6.26 lbs/ft (9.3 kg/m)	B7X1-051N
76 mm (3")	1.890" (48.0 mm)	3.880 in² (2503 mm²)	407 kips (1811 kN)	329 kips (1466 kN)	13.79 lbs/ft (20.5 kg/m)	B7X1-076N

B7Y1 Non-Domestic Hollow Injection Bar

BAR DESIGNATION & OUTER DIAMETER	AVERAGE INNER DIAMETER	MINIMUM NET AREA THROUGH THREADS	MINIMUM ULTIMATE STRENGTH	MINIMUM YIELD STRENGTH	NOMINAL WEIGHT	PART NUMBER
T30S – 30 mm (1.18")	11 mm (0.43")	0.662 in² (427 mm²)	71.9 kips (320 kN)	58.5 kips (260 kN)	2.42 lbs/ft (3.6 kg/m)	B7Y1-030S
T40N – 40 mm (1.57")	20 mm (0.79")	1.046 in² (675 mm²)	121 kips (539 kN)	96.7 kips (430 kN)	4.23 lbs/ft (6.3 kg/m)	B7Y1-040N
T40S – 40 mm (1.57")	16 mm (0.63")	1.222 in² (788 mm²)	148 kips (660 kN)	118 kips (525 kN)	4.84 lbs/ft (7.2 kg/m)	B7Y1-040S
T52N – 52 mm (2.05")	24 mm (0.94")	1.874 in² (1209 mm²)	209 kips (929 kN)	164 kips (730 kN)	6.92 lbs/ft (10.3 kg/m)	B7Y1-052N
* T64 – 64 mm (2.52")	40 mm (1.57")	2.4 in² (1548 mm²)	261 kips (1160 kN)	209 kips (930 kN)	8.74 lbs/ft (13 kg/m)	B7Y1-064N *
* T73N – 73 mm (2.87")	53 mm (2.08")	2.5 in² (1615 mm²)	260 kips (1160 kN)	218 kips (970 kN)	8.9 lbs/ft (13.2 kg/m)	B7Y1-073N *
T76S – 76 mm (2.99")	45 mm (1.77")	3.891 in² (2510 mm²)	427 kips (1900 kN)	337 kips (1500 kN)	13.23 lbs/ft (19.7 kg/m)	B7Y1-076S
* T103N – 103 mm (4.06")	78 mm (3.07")	4.87 in² (3140 mm²)	510 kips (2270 kN)	405 kips (1800 kN)	17.0 lbs/ft (25.3 kg/m)	B7Y1-103N *
* T130N – 130 mm (5.12")	60 mm (2.36")	16.2 in² (10452 mm²)	1785 kips (7940 kN)	1180 kips (5250 kN)	50.4 lbs/ft (78 kg/m)	B7Y1-130N *

129. Question: Sheet S-182 Note 6, Is the independent testing agency being hired by the Owner? Does the rock anchor installer need to provide anything to this testing agency? (testing frame, equipment, personnel, or are they truly independent?)

Response: The Contractor is responsible for hiring the testing agency and for preparation and submittal of a comprehensive Quality Control Plan. Refer to 106.4 of Division 100 General Conditions and Specifications Section 01 40 00.

130. Question: Sheet S-450, please confirm Foundation 18 is micropile supported.

Response: Foundation 18 will have micropiles.

131. Question: Sheet S-450, please show the micropile locations in plan view for foundation 18 as was done for foundation 19, 22, and 23.

    Response: Micropiles will be added to S-450, but the micropile locations are shown on S-455.

132. Question: Sheet S-456, note 1, please consider a "micropile cased adjustment length" unit price to account for inconsistencies in the bedrock elevations. Also the amount of "adjustment length in linear footage" anticipated.

    Response: Unit pricing is agreeable as reflected in the attached revised Price Component Schedule and includes up to 10 feet of additional cased length per micropile delineated by media: 5 feet of cased length in bedrock and 5 feet of cased length between finished grade and bedrock.

133. Question: Addendum 7, response to question 47 indicates that there are large bending moments in the pile, but only axial loads are provided on the drawings. Please indicate lateral load demand for the piles.

    Response: The unfactored lateral loads applied to each micropile is provided below, broken out by structure:
    - Pipe Supports: 11,900 pounds
    - Fish Ladder: 10,590 pounds
    - Exit Flume Column Support Foundations: 8,000 pounds

134. Question: Compression testing for the micropiles will require hold down anchors, please confirm hold down anchors can be designed by the contractor and the contractor has free range of material type, location and that anchors used for testing are allowed to be abandoned in place. If not, please provide a design or location for the required micropile testing hold down anchors, or reconsider allowing tension testing only. Tension testing is more economical and provides more conservative results. Tension testing would be beneficial to this project.

    Response: Hold down anchors can be designed by the Contractor including material types, locations and types of anchors used. Anchors may be abandoned in place, as long as not in conflict with any existing or proposed structures. Value engineering proposals such as alternate testing methods may be submitted following award.

135. Question: Please confirm that no lateral load testing of the micropiles is required.

    Response: Lateral load testing will not be required.

136. Question: Is the contractor allowed to redesign the micropiles (Contractor design)?

Response: This approach is desirable assuming it will offer cost reduction, but there is insufficient time remaining in the bidding process to address this and ensure the redesign is acceptable to the Engineer. Bidders shall therefore bid on the provided micropile design, and the awarded Contractor shall submit its redesign as a value engineering proposal.

137. Question: For the micropiles, what is the pile deflection/rotation criteria for the lateral loads (if any)?

    Response: The design deflection is intended to be less than 1 inch.

138. Question: If there are lateral loads and they are provided - Is a combined stress ratio calculation to demonstrate the combination of axial and flexure loading at a potential joint location acceptable?

    Response: Yes. Also, see responses to Questions 47, 78, and 133.

139. Question: Is the contractor free to eliminate the joint restriction within the upper 10 feet of the pile if the Contractor's design indicates the casing and joint can handle the required loading? Assuming the lateral loading is provided to the contractor.

    Response: Yes. Refer to responses to Questions 78, 133, and 136.

140. Question: Would a higher geotechnical resistance factor be allowed per AASHTO with a verification test?

    Response: The micropiles were designed using an allowable stress design following Sabatini et. al. (2005). "Micropile Design and Construction (Reference Manual for NHI Course 132078)," National Highway Institute, Washington D.C. However, consideration can be given to the assumed grout-ground bond strength and associated factor of safety following completion of the verification load testing program.

141. Question: Are there any imposed lateral deflections that were used for the micropile analysis and design?

    Response: See responses to Questions 133 and 137.

142. Question: Please indicate the maximum allowable lateral deflection of the micropile.

    Response: See response to Question 137.

143. Question: Is the contractor free to redesign the micropile bond length?

    Response: This is an acceptable approach to redesign, but see response to Question 136.

144. Question: Can the bond length be reduced, both diameter and length, based on the Contractor's design?

Response: This is an acceptable approach to redesign, but see response to Question 136.

145. Question: What is the maximum demand bending moment in the pile?

Response: This varies depending on location, but the maximum bending moment was calculated to be 446,151 inch-pounds at a depth of 4.5 feet below ground surface.

146. Question: Can the contractor adjust the casing size such as outside diameter, and wall thickness based on their design?

Response: This is an acceptable approach to redesign, but see response to Question 136.

147. Question: Through the Contractor's design, is the contractor allowed to reduce the number of piles?

Response: A reduced number of piles can be submitted with supporting calculations for review and acceptance by the Engineer. However, see the response to Question 136.

148. Question: Notes 12 and 13 on sheet S-458 indicate loading, but do not show the units. Please confirm this loading has a unit of "kips".

Response: Yes, the units should be in kips.

149. Question: Please confirm the corrosion protection. The micropile specifications do not indicate any specific corrosion protection, but note 3C on sheet S-458 and detail B on Sheet S-459 indicate an epoxy coated bar and galvanized steel casing. Please provide requirements and specifications for these coatings if a coating is required.

Response: Since corrosion loss was assumed, the hot-dip galvanizing of the casing shall be considered an optional alternate to carbon steel. This also amends the response to Question 72 so that carbon steel is acceptable, though stainless steel remains unacceptable.

150. Question: Please also provide the rational for providing 1/16" corrosion loss on the casing while also making the casing galvanized? This is extremely rare, and overly conservative.
a. Is the 1/16" corrosion loss on the wall thickness, or the diameter as a whole? (i.e. 1/32 on each wall)

Response: The 1/16" corrosion loss on the wall thickness was assumed in design. The hot-dip galvanized casing should have been shown as an alternative. Carbon steel is acceptable for the casing.

151. Question: Please consider bare steel for the casing with a 1/16" corrosion loss only.

Response: Carbon steel is acceptable. See responses to Questions 149 and 150.

152. Question: Please provide corrosivity data for the site soils.

Response: There is no known corrosivity data available to provide. Corrosivity was assumed as part of the design in the absence of field test results on which to rely.

153. Question: Please clarify Note 6 on sheet S-458. Should the micropile contractor carry up to 200% of the neat volume of the micropile? How will the contractor be compensated for grouting time and volume? Please consider making excess grouting time and material a unit price to reduce risk to all parties.

Response: The Contractor shall be responsible for material procurement in sufficient quantities to maintain its schedule and drilling progress, including accounting for variability in depth to bedrock encountered in the field up to the limit per Note 6. Unit pricing for grout take is amenable and included in the attached revised Price Component Schedule. Additional grouting requirements have been included in the attached revised Specifications Sections 31 63 33 and 31 68 00.

154. Question: Based on the contractor's micropile design, can the contractor elect to install a longer bond length instead of pulling back with casing? Pulling back casing within rock has unique challenges and risks and it is unclear how the contractor will get compensated if tooling gets locked in the rock.

Response: This is an acceptable approach to redesign, but see response to Question 136.

155. Question: Micropile Specification, 1.03 B, please provide the Geotechnical Engineering report mentioned.

Response: The Geotechnical Engineering Report by Verdantas was included as Supplement B to the Design Specifications of Exhibit C; the complete original Exhibit C at the time of advertisement containing the report remains available on Maine DOT's website.

156. Question: It is unclear if the micropile casing and associated parts and rock anchors are required to be domestic steel. Please confirm if this steel needs to be domestic. Understood that there is a waiver for certain BABA requirements, but it is unclear to the bidders what these waivers include or do not include.

Response: The steel is not required to be domestic. Refer to the following:
Multi-Agency Tribal BABA Waiver.pdf
DOC Tribal Consultations Waiver Issuance Memo CFO ASA v2.pdf

Note that the waiver applies to awards obligated or incrementally funded on or after the effective date, May 8, 2024, until September 30, 2024. This project was awarded before September 30, 2024, so the waiver applies to this funding.

157. Question: Micropile Specification, 2.03 A – please confirm that this is a typographical error and confirm that Portland Cement Type I or Type II, or Type I/II is acceptable.

Response: Portland Cement Type I or Type II, or Type I/II is acceptable.

158. Question: Micropile Specification Section 3.04 – please consider the grouting volume and unknown and add in a unit price for grout takes above a certain theoretical volume.

Response: See response to Question 153 and refer to the attached revised Specification Sections 31 63 33 and 31 68 00 for related redlines. Bidders shall therefore estimate up to 50% additional volume in the total pricing item to be compensated on a unit price basis of actual grout take.

159. Question: Micropile Specification Section 3.06 G, 2 – please confirm the number of proof test. This specification says 5% which would mean (2) proof tests, or (1) per substructure which would be (4) proof tests. Addendum 7, response to question 79 indicates (5) proof tests. Which one is correct?

Response: Five (5) proof tests are required in accordance with response to Question 79.

162. Question: Is there a 480V, 3P, 300A MCC space available for construction temp power needs within any of the Hydro Electrical rooms?

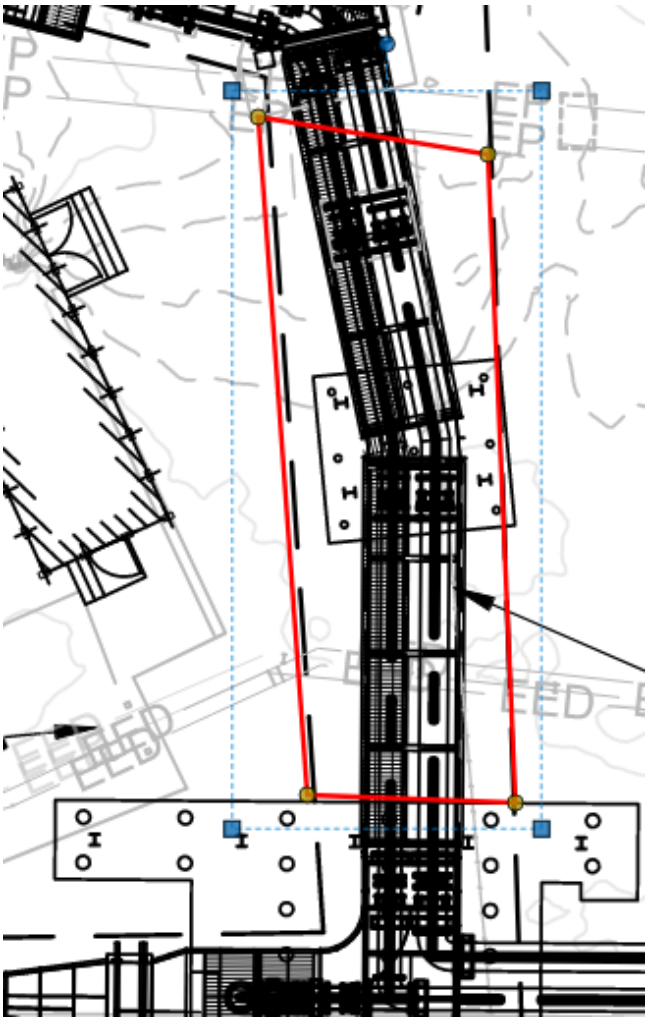
Response: Bidders shall assume the Contractor must supply its own power. WPLLC may allow the Contractor to use available power sources at its sole discretion.

163. Question: The Bidding Instructions received as part of the Bid Package states to submit two copies of the completed and signed Contract Offer, Agreement & Award form. Please provide a clean copy of the Contract Offer, Agreement & Award form for signature and submittal.

Response: Fillable templates from the Bid Book are attached.

164. Question: Detail F on drawing S-404 shows a platform with stairs but no location is indicated. Please provide a detail that shows where this needs to be installed.

Response: Detail F is to provide a cross over for the piping. It can be located anywhere under the steel exit flume. See below for potential area.



165. Question: New trash rack drawings on amendment 7 do not provide connection details showing how the trash racks attach to the panels. Please provide detail.

Response: This question is assumed to refer to how the trash rack panels (e.g. 500-03) are attached to the support frames (e.g. 500-02). The trash rack panels are slid into the support frames. Two retainer clip angles will be added to the top of each trash rack panel that will be welded to the trash rack panels and bolted to the top member of the support frames.

166. Question: Please provide the specification for the 3/4" threaded rod for the trash racks.

Response: The 3/4” DIA. threaded rod should be ASTM A36 steel.

167. Question: Drawing D-100 detail 1 states to relocate the duct work around the bypass flume. This will require more material, please provide information on the size and type of ductwork along with information of a new connection point if one is required.

Response: The following photograph depicts the duct work to be relocated, which supplies shower water for WPLLC’s north filter screens and is shut down for winter. The awarded

Contractor shall submit a request for information during construction following field verification to propose relocation and reconnection for acceptance by the Engineer and WPLLC. Bidders may assume pipe diameter is up to 6 inches and has insulation and pipe sleeve to be extended and/or restored after relocation as needed.

168. Question: Specification 31 23 19 0 Water Control Measures, Subsection 1.07.D, states the dewatering plan shall include details for discharging water and measures for monitoring & limiting turbidity. The permits discuss the requirement for turbidity curtains, but do not appear to specifically mention monitoring. Please clarify what turbidity monitoring measures are required

Response: The permit requirements shall control. Additional compliance requirements, if any, will be negotiated with the Contractor.

169. Question: Specification Section 32 34 00 Fabricated Bridges, part 2.4 Engineering, paragraph 7 Bridge Pedestrian Safety Rails outlines very specific design requirements. In order to achieve the pedestrian loading design requirements, a custom 5-foot cantilever walkway attached to the modular bridge with a specially designed rail picket system will be necessary. Please confirm that this was the intent of the specification and that this is acceptable.

    Response: A custom walkway is not intended. Pedestrians are expected to traverse the vehicle pathway.

170. Question: Specification Section 32 34 00 Fabricated Bridges, part 2.3 Geometry, paragraph D vehicular guardrail, states that a 42-inch minimum rail height is required. Modular bridge systems do not come with a standard 42-inch rail height, this would have to be a custom-made rail system that will come at additional cost. Please confirm that a 42-inch vehicular guard rail is required.

    Response: The intent is to add handrail anchored into the guardrail support posts to achieve a total height of 42 inches for pedestrian safety. This is not expected to be the total height of the vehicular guardrail.

171. Question: If changes to the bridge abutments and pier depicted in the plans are necessary because of the addition of a pedestrian walkway and larger vehicular guardrail would these changes be considered a change order?

    Response: Refer to the responses to Questions 169 and 170.

172. Question: Section 2.9 of specification 32 34 00, references a chain link security fence with barbed wire. Please clarify where this fence goes and how much of it is to be installed.

    Response: Install fencing outboard of the guardrail along both sides of the bridge segment spanning between Abutment 2 and the bridge pier. This segment is approximately 67.3 feet long per C-180.

173. Question: Section 2.3 of specification 32 34 00 references a fence on the island side of the bridge. Sheet S-505 provides details for a security fence, however there is no detail for a vehicular gate. Please clarify if a vehicular gate is required at this location and provide a detail for this gate.

    Response: The vehicle gate shall be comprised of galvanized chain link fencing and posts with double-leaf manual hinged doors and a manual lock. Provide at least two sets of keys to WPLLC upon demobilization.

174. Question: Please state what unit the unfactored design load is in, in the verification Static Load Test table and the Proof test table on S-458

    Response: Kips.

175. Question: Drawing C-180 shows existing pipes which may impact the construction of Abutment 2 and its approach. Please provide drawings showing the as-built condition of the pipes and pipe supports

Response: No as-built drawings are currently available for these pipes. The Contractor shall implement measures to protect the pipe per notes on C-181.

176. Question: Due to outstanding questions, the complexity of the project, and the as-built documents only becoming available the week of July 21st, we respectfully request to extend the bid date to August 13th, 2025.

Response: Refer to the extension to August 6, 2025, in Amendment No. 10. Further extension to August 13, 2025, is not granted at this time.

177. **Question**: The bid Documents reference two waivers for the Build America Buy America Act through is funding sources and funding contributions from the Passamaquoddy Tribe. Please provide the specific waivers granted for the project including the specific details relating to the waivers granted. Please also confirm these waivers are still active and enforced.

Response: Confirmed. Refer to the response to Question 156.

178. **Question**: Given the unpredictable nature of the current Tariff Policies, will there be any recourse for the contractor should tariffs be implemented or adjusted on non-domestic materials after the bid date?

Response: This is not guaranteed. If the Contractor proposes that updates to tariff policies during execution of the Work are grounds for Equitable Adjustment, then the burden of proof will be on the Contractor to justify its claim for review by the Department. Refer to Section 109.7 of Division 100 General Conditions.

179. **Question**: Specifications Section 32 34 00 Fabricated Bridges, part 1.8 Warranty, paragraph A, calls for the warrant of materials and installation for 10 years after Woodland Pulp and Maine DMR's acceptance of work. Acrow does not provide a warranty on installation as Acrow does not control the installation. Secondly, Acrow does not warrant materials.

Response: Warranty exclusively by the bridge manufacturer is not what is specified. Some warranty provisions from the bridge manufacturer are assumed, but it is the Contractor's responsibility to ensure the full extent of the warranty requirement is met.

180. **Question**: Specifications Section 32 34 00 Fabricated Bridges, part 1.5 Submittals, paragraph A, states that the bridge design shall be performed by a PE who is an employee of the Bridge Manufacturer and that the bridge design engineer shall provide signed and sealed drawings and calculations. All Acrow Engineers are licensed Professional

Engineers. However, Acrow's internal policy requires 3rd party Professional Engineers to review and sign our work. Please confirm this is acceptable.

Response: Confirmed. Include detailed contact information for both the Acrow lead engineering representative and the third-party professional engineer responsible for bridge design with the shop drawing submittal. The engineer sealing the design plans shall be registered in the State of Maine.

181. **Question**: Specifications Section 32 34 00 Fabricated Bridges, part 1.7 Quality Assurance, paragraph A.2, calls for visual and ultrasonic testing of all welds in accordance with AWS D1.1. Acrow is a bridge manufacturer, which differs from a bridge fabricator due to our pre-engineered modular components. Our manufacturing process includes a visual inspection of all welds per AWS D1.1. We also do NDT (Non-Destructive Testing) on a percentage of parts produced. Please confirm this is acceptable.

    Response: Confirmed acceptable.

182. **Question**: Specifications Section 32 34 00 Fabricated Bridges, part 2.3 Geometry, paragraph D, says in addition to vehicular guard rail, bridges shall include fencing or railing to allow for pedestrians to safely use the bridge. Paragraph 1 says minimum railing height shall be 42 inches above the finished deck. The standard Acrow vehicular rail height for a 13.6' wide Acrow 700XS Bridge (TL-2, not crash tested) is 2' - 8 11/16" from top of epoxy to top of guard rail. Changing this height will require a custom designed rail system, adding cost. Please confirm the 42" height requirement refers to the handrail only and the standard Acrow vehicle guardrail height for vehicles is acceptable.

    Response: Confirmed. The 42-inch height requirement applies to pedestrian handrail only. Refer to the response to Question 170.

183. **Question**: Specifications Section 32 34 00 Fabricated Bridges, part 2.4 Engineering, paragraph 6, calls for bridge rail design to meet the forces of TL-2 (not crash tested). Acrow 700XS Bridge Rail for a 13.6 foot wide bridge is 2' - 8 11/16" from top of epoxy to top of guard rail. Please confirm this is acceptable as shown on the plans.

    Response: Confirmed acceptable. Refer to the response to Question 181.

184. **Question**: Specifications Section 32 34 00 Fabricated Bridges, part 2.4 Engineering, paragraph 7 (a and b), calls for bridge pedestrian safety rails, picket system, or fencing shall be designed for infill loading of 200 lbs applied horizontally at right angles to one square foot of the system and 50 lbs per lineal foot or 200 lbs point load (whichever is greater), applied in any direction at any point along the top chord or at the top of the safety system. These loading requirements will require a specially designed 5' cantilevered footwalk off the side of the bridge with a specially designed pedestrian rail system. This will add cost, weight, and overall out to out dimensions of the Acrow bridge. Please confirm these loading requirements are required and this is the intent.

Response: This is not the intent. Refer to the responses to Questions 169, 170, and 181.

185. **Question**: Specifications Section 32 34 00 Fabricated Bridges, part 2.5 Materials, paragraph A, calls for bridges to be fabricated from self-weathering structural steel tubing. Acrow Bridge components are hot dipped galvanized. Please confirm that the following Acrow specifications is acceptable - all major components shall be galvanized to AASHTO M111-ASTM A123, all bolts are hot dipped galvanized, and pins are electro galvanized.

    Response: Confirmed galvanized is acceptable.

186. **Question**: Specifications Section 32 34 00 Fabricated Bridges, part 2.7 Finish, paragraph B, calls for exposed surfaces and components of the bridge not constructed of self-weathering steel shall be finished in accordance with requirements of Specification Section 09 90 00 Painting and Coating. Acrow bridges are hot dipped galvanized. Acrow does not require additional surface treatment of their components. Please clarify what is required in addition to the HDG treatment.

    Response: Confirmed galvanized is acceptable with no additional treatment.

187. **Question**: Per note 3a on Drawing S-458, corrosion of the micropile casing was accounted for through section loss. Detail B on drawing S-459 calls out galvanized casing, yet galvanized casing is not specified in Section 31 63 33 Micropiles. Is galvanized casing required?

    Response: Galvanized casing is not required. Carbon steel is acceptable. Refer to the responses to Questions 149 through 151.

188. **Question**: A few questions relating to seals:
    Are there safety-critical parts included in this RFQ? In other words, for the purposes of the rubber seals, would a leak constitute an emergency (threat of injury, equipment damage, and/or contamination of hazardous materials into the surrounding environment)?

    a. A Critical Safety Item (CSI) is a part, assembly, or support equipment whose failure could cause loss of life, permanent disability or major injury, loss of a system, or significant equipment damage.
    b. A Critical Item is a part, assembly, or equipment whose failure, malfunction, or absence could cause a catastrophic or critical failure, leading to loss of life, serious injury, significant equipment damage or unacceptable

    Response: The Contractor shall be responsible for evaluating all project-specific hazards and for implementing a safety plan for its personnel and subcontractors. There is risk of serious injury working within any confined space requiring hazard isolation; confined spaces for this project primarily relate to dewatered areas behind stoplogs, intake gates, and existing fish passage facility gates for which gates and associated flow control equipment shall be locked out.

189. **Question**: Are there flowdowns, DPAS ratings, or other requirements attached to this request?

Response: The Contractor is responsible for subcontracts and the provisions contained therein unless specified in Division 100 General Conditions; refer to Section 104.5.7. No DPAS ratings apply to this Contract.

190. **Question**: Is the end user a government entity? If so, who?

Response: Woodland Pulp LLC is the end user and will operate the facilities after commissioning.

191. **Question**: Are there specifications for the Section 2 work, or just what is noted on the drawings? Specifically the Trash Rack, but other work as well.

Response: Refer only to the notes for the Kleinschmidt intake design drawings, Exhibit B6. The Design Specifications of Exhibit C apply to design plans in Exhibits B1 through B5 by Verdantas and PIC; refer to "Bid Supplement" labeling of select drawing sheets and specifications for other tasks incorporated into Section 2 per the list of updates provided in Amendment No. 2.

Consider these changes and information prior to submitting your bid on **August 6, 2025.**

Sincerely,

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

SECTION 01 20 00

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

A. This Section describes the measurement of and payment for the Work to be completed under the items listed on the Price Component Schedule.

PART 2 - WORK LISTED IN THE SCHEDULE OF WORK ITEMS

A. Work under this Contract will be paid on a unit price or lump-sum basis as outlined on the Price Component Schedule for the quantity of Work installed.

B. The unit prices and lump-sum prices include full compensation for furnishing the labor, materials, tools, equipment, and incidental expenses to do the Work required in completing the Project included in the Contract Documents.

C. The application for payment will be for a specific item based on the percentage completed or quantity installed. The percentage complete will be based on the value of the partially completed Work relative to the value of the item when entirely completed and ready for service.

D. Contractor shall submit a Schedule of Values providing a breakdown of Price Component Schedule items as perceived by the Contractor and an accompanying proposed Payment Schedule identifying cost loading and/or milestones to be completed for payment applications over the Contract duration. The Schedule of Values and Payment Schedule are subject to agreement by Maine DMR.

PART 3 - WORK NOT LISTED IN THE SCHEDULE OF WORK ITEMS

A. The General Conditions and items in the Special Provisions, general requirements, and specifications which are not listed in the schedule of work items of the Price Component Schedule are, in general, applicable to more than one listed work item, and no separate work item is provided therefor. Include the cost of work not listed but necessary to complete the project designated in the contract documents in the various listed work items of the Price Component Schedule.

B. The Price Component Schedule is intended to establish a total cost for the work in its entirety. Should the Contractor feel that the cost for the work has not been established by specific items in the Price Component Schedule, identify those specific items that are not reflected in the schedule and include the cost for that work in some related item so

that the Proposal for the project reflects the total cost for completing the work in its entirety.

PART 4 - ITEM DESCRIPTIONS – REFER TO PRICE COMPONENT SCHEDULE

4.01. MOBILIZATION AND DEMOBILIZATION

Item Description: Work shall include costs associated with mobilization and demobilization. Neither Project Management, Bonds, nor Insurance are covered by this item; refer to other items specific for that Work.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: Payment shall be at the lump sum price provided in the Price Component Schedule. This price shall not exceed 5 percent of the Total Cost shown on the Price Component Schedule. Payment shall be made after all conditions stated in the Price Component Item Description have been completed, less any applicable retention, in accordance with the Contract.

(a) Partial payment, 40 percent, may be submitted with the first progress payment upon physical mobilization to the site.

(b) Partial payment, 40 percent, will be paid when the Contractor's site office has been established.

(c) The remaining payment, 20 percent, shall be paid as a lump-sum after the issuance of the Final Completion Letter, the Contractor has demobilized, and the site has been restored.

4.02. PROJECT MANAGEMENT AND QUALITY CONTROL

Item Description: Work shall include but not be limited to project initiation, scheduling, permits, submittals, requests for information (RFIs), budget and invoice tracking, meetings, communications, procurement of a Field Quality Control Testing firm, per Section 01 40 00, and coordination of inspections, testing, and results.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: Payment shall be made at the contract lump-sum price and shall be divided equally throughout the length of the Contract or as proposed and approved by Maine DMR in Contractor’s Payment Schedule, less any applicable retention, in accordance with the Contract.

4.03. RECORD DOCUMENTS

Item Description: Work shall include furnishing Record Documents in accordance with Section 01 78 39.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: Payment shall be made in the following manner, less any applicable retention, in accordance with the Contract:

(a) 50 percent of the contract lump sum Price after the Contractor submits Record Drawings for initial review by Maine DMR's Representative.

(b) 50 percent of the contract lump sum Price after the Contractor submits final Record Drawings incorporating or responding to the comments of Maine DMR's Representative.

4.04. ENVIRONMENTAL CONTROLS

Item Description: Work shall include the construction, installation, maintenance, and removal of temporary water quality, erosion, and sediment control best management practices (BMPs), as necessary, to control surface water runoff, groundwater seepage, and dewatering system discharges at the construction site to protect the overall project site and the river. Work shall be in accordance with Section 01 57 13 and as shown on the Drawings.

(1) Measurement: No specific measurement for payment will be made, but Contractor shall compare incurred expenses for deployment of environmental controls against its approved Water Quality, Sediment, and Erosion Control Plan to ensure percentages proposed for progress payments are reasonable.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor’s Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.05. COFFERDAMS

Item Description: Work shall include the design, fabrication, installation, and removal of cofferdams to prevent water from the River entering the area of Work. Work shall be in accordance with Section 31 23 19 and as shown on the Drawings.

(1) Measurement: Percent completion of Work shall be measured against Contractor's Payment Schedule, such as proposed milestone payments for design upon acceptance or for materials upon delivery, to be reviewed and approved by Maine DMR.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.06. DEWATERING

Item Description: Work shall include furnishing all materials, labor, and equipment required to complete all dewatering Work as specified in Section 31 23 19. Any crushed rock, pea gravel, or similar material used in the trench as part of the dewatering operation shall be included in this Item.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.07. EARTHWORK

Item Description: Work shall include earth excavation and backfill as shown on the Drawings and as specified in Section 31 30 00. Rock excavation is not included in this item.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.08. ROCK EXCAVATION

Item Description: Work shall include rock excavation as shown on the Drawings and as specified in Section 31 30 00.

(1) Measurement: No specific measurement for payment will be made for the lump sum Item. Measurement for change order payment at unit prices will be made by cubic yard removed.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

Payment under change order unit pricing shall be made at the price per cubic yard in Part II of the Price Component Schedule.

4.09. CONCRETE DEMOLITION

Item Description: Work shall include items delineated in Section 02 41 00 and associated items shown on the Drawings.

(1) Measurement: No specific measurement for payment will be made for the lump sum Item. Measurement for change order payment at unit prices will be made by counting.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

Payment under change order unit pricing shall be made at the price per cubic yard in Part II of the Price Component Schedule.

4.10. CAST-IN-PLACE CONCRETE

Item Description: Work shall include furnishing and installing all cast-in-place concrete at the bridge abutments, flood walls, fish lift, fish ladder, exit flume, and slabs on grade as shown on the Drawings and as specified in Division 03.

(1) Measurement: No specific measurement for payment will be made for the lump sum Item, but percent completion may at any time be compared to placed quantities measured by cubic yard for acceptance by Maine DMR.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed, less any applicable retention, in accordance with the Contract. Percentage completion for progress payments shall be based on actual concrete placed in alignment with Contractor's Payment Schedule and passing at a minimum testing and inspection requirements up to and including review and

acceptance of 7-day compressive strength testing results. Maine DMR's acceptance of the percentage completed and submitted for progress payment shall not relieve the Contractor of its obligation for cast-in-place concrete to meet all testing and inspection requirements. The Contractor's final progress payment for this item shall not be submitted until all respective cleaning and finishing has been completed.

4.11. MICROPILES

Item Description: Work shall include furnishing and installing all micropiles as shown on the Drawings and as specified in Section 31 63 33.

(1) Measurement: Measurement for payment at unit prices will be made by counting for each of the following three segments comprising the micropile and for grout take:

(a) Cased length from finished grade to bedrock

(b) Cased length in bedrock

(c) Uncased length in bedrock

(2) Payment: The pay quantities for this Item shall be based on the price for each of the three micropile segments above per linear foot installed and on the price per cubic foot of actual grout take as listed in the Price Component Schedule, less any applicable retention, in accordance with the Contract.

4.12. STRUCTURAL STEEL FRAMING AT FISH LIFT

Item Description: Work shall include furnishing and installing all structural steel framing at the fish lift as shown on the Drawings and as specified in Section 05 12 00.

(1) Measurement: No specific measurement for payment will be made for the lump sum Item. Measurement for change order payment at unit prices will be made by counting.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.13. EXIT FLUME AND BYPASS FLUME STRUCTURAL STEEL

Item Description: Work shall include furnishing and installing all structural steel at the exit flume and bypass flume as shown on the Drawings and as specified in Section 05 12 00.

(1) Measurement: No specific measurement for payment will be made for the lump sum Item. Measurement for change order payment at unit prices will be made by counting.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.14. DOWNSTREAM PIPE SYSTEMS AND STEEL FRAMING

Item Description: Work shall include furnishing and installing the downstream piping, coatings, associated pipe cradles, and steel framing support as shown on the Drawings and as specified in Section 05 12 00 and 33 11 00.

(1) Measurement: No specific measurement for payment will be made for the lump sum Item. Measurement for change order payment at unit prices will be made by counting.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.15. AWS PIPE SYSTEMS AND STEEL FRAMING

Item Description: Work shall include furnishing and installing the AWS piping, coatings, associated pipe cradles, and steel framing support as shown on the Drawings and as specified in Section 05 12 00 and 33 11 00.

(1) Measurement: Measurement shall be made by counting.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.16. STAIRS, GRATING, LADDERS, RAILING, AND PLATFORMS

Item Description: Work shall include furnishing and installing all stairs, grating, ladders, and railing as shown on the Drawings and as specified in Section 05 50 00 and Division 06.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.17. FISH HOPPER

Item Description: Work shall include furnishing and installing the hopper, hopper gate with pneumatic piston, brail, rail bumpers, and ancillary equipment including pneumatic pipe, hose, and valves as shown on the Drawings and as specified in Section 05 50 00.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract. The Contractor's final progress payment for this item shall not be submitted until all associated equipment testing has been completed and accepted by Maine DMR, which excludes System Testing.

4.18. CRANES AND HOISTS AT FISH LIFT

Item Description: Work shall include furnishing and installing the hopper hoist and related lifting equipment, and all other required cranes and hoists as shown on the Drawings and as specified in Section 41 22 00.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: The pay quantity for this Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract. The Contractor's final progress payment for this item shall not be submitted until all associated equipment testing

has been completed and accepted by Maine DMR, which excludes System Testing.

4.19. GATES AND SCREENS

Item Description: Work shall include furnishing and installing all components of the wedge wire screen and air burst system, entrance gates, flow control gates, weir panels, baffle walls, upstream screens, V-gates, and isolation gates as shown on the Drawings and as specified in Sections 11 10 00, 35 20 13, and 35 20 16.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: The pay quantity for this Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract. The Contractor's final progress payment for this item shall not be submitted until all associated equipment testing has been completed and accepted by Maine DMR, which excludes System Testing.

4.20. ACCESS ROAD

Item Description: Work shall include furnishing and installing the access road to the bridge as shown on the Drawings.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.21. ACCESS BRIDGE

Item Description: Work shall include furnishing and installing the access bridge support as shown on the Drawings and as specified in Section 32 34 00.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.22. ELECTRICAL EQUIPMENT ENCLOSURE

Item Description: Work shall include furnishing and installing electrical equipment enclosure as shown on the Drawings and as specified in Section 26 27 16.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: The pay quantity for this Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.23. SYSTEM TESTING AND START-UP

Item Description: Work shall include testing and start-up of all equipment as shown on the Drawings and as specified in 01 75 16.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: The pay quantity for this lump sum Item shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract.

4.24. BONDS AND INSURANCE

Item Description: Work shall include the procurement of the Contractor's Bonds and Insurance required for the Project.

(1) Measurement: No specific measurement for payment will be made.

(2) Payment: Payment shall be made at the lump sum price in the Price Component Schedule after proofs of such bonds and insurance have been provided to Maine DMR, less any applicable retention, in accordance with the Contract.

END OF SECTION

SECTION 31 63 33

MICROPILES

PART 1 - GENERAL

1.01. DESCRIPTION

A. This work shall consist of providing, installing and constructing micropiles as shown on the Contract Drawings and approved working drawings and as specified herein. The micropile specialty Contractor is responsible for furnishing of all materials, products, accessories, tools, equipment, services, transportation, handling, labor and supervision, manufacturing techniques installation, and testing for micropiles and pile top attachments required for the Project.

B. The selected micropile Contractor shall provide all complete installation activities for the micropile foundation systems that will develop the load capacities indicated on the contract plans. The micropile load capacities shall be verified by verification load testing and proof load testing as required and must meet the test acceptance criteria specified herein.

1.02. REFERENCES

The following publications form a part of this specification to the extent indicated by the references. Where reference is made to one of the following standards, the revision in effect at the time of bid opening shall apply. Omission or changes in titles of a code or standard does not relieve the Contractor of the requirement to complete all work in accordance with industry-standard codes, specifications, or law.

A. American Association of State Highway and Transportation Officials (AASHTO):

1. M31: Standard Specification for Deformed and Plain Carbon and Low-Alloy Steel Bars for Concrete Reinforcement.

2. M45: Standard Specification for Aggregate for Masonry Mortar.

3. M183: Standard Specification for Structural Steel.

4. M194: Standard Specification for Chemical Admixtures for Concrete.

5. M223: Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Steels of Structural Quality.

6. M275: Standard Specification for High-Strength Steel Bars for Prestressed Concrete.

7. T26: Standard Test Method of Water to Be Used Concrete.

8. T106: Standard Method of Test for Compressive Strength of Hydraulic Cement Mortar (Using 50-mm or 2-in. Cube Specimens).

9. T133: Standard Method of Test for Density of Hydraulic Cement.

B. American Society for Testing and Materials (ASTM):

1. A36: Standard Specification for Carbon Structural Steel.

2. A153: Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

3. A252: Welded and Seamless Steel Pipe Piles.

4. A572: Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.

5. A615: Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.

6. A722: Standard Specification for High-Strength Steel Bars for Prestressed Concrete.

7. A775: Standard Specification for Epoxy-Coated Steel Reinforcing Bars.

8. A934: Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.

9. C109: Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or 50-mm Cube Specimens).

10. C144: Standard Specification for Aggregate for Masonry Mortar.

11. C188: Standard Test Method for Density of Hydraulic Cement.

12. C494: Standard Specification for Chemical Admixtures for Concrete.

13. C595: Standard Specification for Blended Hydraulic Cements.

14. D1143: Standard Test Methods for Deep Foundation Elements Under Static Axial Compressive Load.

15. D1784: Standard Classification System and Basis for Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.

16. D3689: Standard Test Methods for Deep Foundation Elements Under Static Axial Tensile Load.

17. D3966: Standard Test Methods for Deep Foundations Under Lateral Load.

C. American Welding Society (AWS)

1. D1.1 Structural Welding Code – Steel.

D. American Petroleum Institute (API).

1. 5CT (N-80) Specification for casing and tubing.

2. RP 13B-1 Recommended Practice – Standard Procedure for Field Testing Water Based Drilling Fluids.

E. Refer to Division 03 Concrete specifications for concrete items and procedures not addressed in this specification.

1.03. AVAILABLE INFORMATION

Available information developed by the Engineer for the Project includes the following items:

A. Contract Drawings prepared by Alden/Verdantas.

B. Geotechnical Engineering Report prepared by Verdantas, dated December 20, 2024.

1.04. CONSTRUCTION SITE SURVEY

A. Before bidding the Work, the Contractor shall review the available subsurface information and visit the site to assess the site geometry, equipment access conditions, and location of existing structures and above ground facilities.

B. The Contractor is responsible for field locating and verifying the location of all utilities shown on the plans prior to starting the Work. Coordinate with Woodland Pulp and maintain uninterrupted service for those utilities designated to remain in service throughout the Work. Notify the Engineer of any utility locations different from shown on the plans that may require micropile relocations or structure design modification. Subject to the Engineer's approval, additional cost to the Contractor due to micropile relocations and/or structure design modification resulting from utility locations different from shown on the plans, will be paid as Extra Work. The Contractor shall be responsible for identifying special shielding and/or setbacks required related to above ground electrical lines and coordinating shielding or temporary disconnects with Woodland Pulp.

C. Prior to the start of any micropile construction activity, the Contractor, Woodland Pulp, and the Engineer shall jointly inspect the site to observe and document the pre-construction condition of the site, existing structures and facilities.

1.05. SUBMITTALS

A. Qualifications

1. The micropile Contractor shall be experienced in the construction and load testing of micropiles and have successfully constructed at least 5 projects in the last 5 years involving construction totaling at least 100 micropiles of similar capacity to those required in these plans and specifications.

2. The Contractor shall have previous micropile drilling and grouting experience in soil/rock similar to project conditions. The Contractor shall submit construction details, structural details and load test results for at least three previous successful micropile load tests from different projects of similar scope to this project.

3. The Contractor shall assign the Contractor's Engineer to supervise its Work that has experience on at least 3 projects of similar scope to this project completed over the past 5 years. The Contractor shall be responsible for providing a micropile installation crew that has sufficient experience and skills to successfully, safely, and efficient complete the Work required. The on-site foremen and drill rig operators shall have experience on at least 3 projects over the past 5 years installing micropiles of equal or greater capacity than required in these plans and specifications, and at least 3 projects where the micropiles were installed into bedrock.

4. At least 45 calendar days before the planned start of micropile construction, the Contractor shall submit the completed project reference list and a personnel list. The project reference list shall include a brief project description and the name and current phone number of the owners of those projects and load test reports. The Contractor's personnel list shall identify the supervising project Contractor's Engineer, drill rig operators, and on-site foremen to be assigned to the project. The personnel list shall contain a summary of each individual's experience and demonstrate that each individual is suitably qualified to facilitate the micropile Work. The Engineer will approve or reject the Contractor's qualifications within 15 calendar days after receipt of a complete submission.

5. Additional time required due to incomplete or unacceptable submittals will not be cause for time extension or impact or delay claims. All costs associated with incomplete or unacceptable submittals shall be borne by the Contractor.

6. Work shall not be started, nor materials ordered, until the Engineer's and Maine DMR's written approval of the Contractor's experience qualifications is given.

Maine DMR may suspend the Work if the Contractor uses personnel not previously included in the list of qualifications provided by the Contractor. If work is suspended, the Contractor shall be fully liable for all resulting costs and no adjustment in contract time will result from the suspension.

B. The Contractor shall prepare and submit to the Engineer, for review of completeness, the following for the micropile system or systems to be constructed:

1. Detailed step-by-step description of the proposed micropile construction procedure, including personnel and their specific roles, safety practices, material handling locations and sequencing, testing and equipment to assure quality control, and contingency planning. This step-by-step procedure shall be shown on marked-up versions of the design drawings in sufficient detail to allow the Engineer to monitor the construction and quality of the micropiles.

2. Proposed start date and micropile installation schedule providing the following:

    a. Micropile number

    b. Micropile design load

    c. Type and size of reinforcing steel

    d. Minimum bond length

    e. Total micropile length

    f. Micropile top footing attachment

3. If welding of casing is proposed, submit the proposed welding procedure and details of weld locations, certified by a qualified welding specialist.

4. Information on headroom and space requirements for installation equipment that verify the proposed equipment can effectively and safely perform at the site.

5. Plan describing how surface water, drill flush, and excess waste grout will be controlled and properly disposed.

6. Certified mill test reports for the reinforcing steel or coupon test results for permanent casing without mill certification. The ultimate strength, yield strength, elongation, and material properties composition shall be included. For API N-80 pipe casing, coupon test results may be submitted in lieu of mill certification.

7. Proposed Grouting Plan. The grouting plan shall include complete descriptions, details, and supporting calculations for the following:

a. Grout mix design and type of materials to be used in the grout including certified test data and trial batch reports.

b. Manufacturer's product data for admixtures and additives proposed to be added to the grout mixes. Certify the proposed admixtures and additives are compatible with the grout mixes.

c. Methods and equipment for accurately placing, monitoring and recording the grout depth, grout volume and grout pressure as the grout is being placed.

d. Contingency plan for unexpected grout loss and/or grout breakout.

e. Grouting rate calculations, when requested by the Engineer. The calculations shall be based on the initial pump pressures or static head on the grout and losses throughout the placing system, including anticipated head of drilling fluid (if applicable) to be displaced.

f. Estimated curing time for grout to achieve specified strength. Previous test results for the proposed grout mix completed within one year of the start of grouting may be submitted for initial verification and acceptance and start of production work. During production, grout shall be tested in accordance with Section 3.04.E.

g. Procedure and equipment for Contractor monitoring of grout quality.

8. Detailed plans for the proposed micropile load testing method. This shall include all drawings, details, and structural design calculations necessary to clearly describe the proposed test method, reaction load system capacity and equipment setup, types and accuracy of apparatus to be used for applying and measuring the test loads and pile top movements in accordance with Section 3.06, Pile Load Tests.

9. Calibration reports and data for each test jack, pressure gauge and master pressure gauge and electronic load cell to be used. The calibration tests shall have been performed by an independent testing laboratory, and tests shall have been performed within 90 calendar days of the date submitted. Testing shall not commence until the Engineer has reviewed and accepted the jack, pressure gauge, master pressure gauge and electronic load cell calibration data.

Work other than test pile installation shall not begin until the construction submittals have been received, reviewed, and accepted in writing by the Engineer. Provide submittal items 1 through 5 at least 21 calendar days prior to initiating micropile construction, item 7 as the work progresses for each delivery and submittal items 6, 8 and 9 at least 7 days prior to start of micropile load testing or incorporation of the

respective materials into the work. The Contractor shall allow the Engineer 7 calendar days to review the construction submittals after a complete set has been received. Additional time required due to incomplete or unacceptable submittals shall not be cause for delay or impact claims by the Contractor. All costs associated with incomplete or unacceptable Contractor submittals shall be the responsibility of the Contractor.

1.06. QUALITY ASSURANCE

A. All micropile installation work shall be inspected by the Engineer during installation and approval by the Engineer will be required prior to construction of the pile cap(s).

1.07. PRE-CONSTRUCTION MEETING

A. A pre-construction meeting will be scheduled by the Engineer and held prior to the start of micropile construction. The Engineer, prime Contractor, micropile installation specialty Contractor, excavation Contractor, and Contractor's Engineer shall attend the meeting. Attendance is mandatory.

B. The pre-construction meeting will be conducted to clarify the construction requirements for the Work, to coordinate the construction schedule and activities, and to identify contractual relationships and delineation of responsibilities amongst the prime Contractor and its various Subcontractors, specifically those pertaining to excavation for micropile structures, addressing anticipated subsurface conditions, micropile installation and testing, micropile structure survey control and site drainage control.

PART 2 - MATERIALS

2.01. GENERAL

A. Furnish materials new and without defects. Transport, handle, store, and use materials in a manner that fully preserves their intended characteristics and function. Remove defective materials from the jobsite at no additional cost.

2.02. ADMIXTURES FOR GROUT

A. Admixtures shall conform to the requirements of ASTM C494/AASHTO M194. Admixtures that control bleed, improve flowability, reduce water content, and retard set may be used in the grout, subject to the review and acceptance of the Engineer. Admixtures shall be compatible with the grout and mixed in accordance with the manufacturer's recommendations. Expansive admixtures shall only be added to the grout used for filling sealed encapsulations and anchorage covers. Accelerators are not permitted. Admixtures containing chlorides are not permitted.

2.03. CEMENT

A. All cement shall be Portland Cement, ASTM C595, Type IL.

2.04. CENTRALIZERS AND SPACERS

A. Centralizers and spacers shall be fabricated from: schedule 40 PVC pipe or tube; steel, or other material non-detrimental to the reinforcing steel. Centralizers shall be inert with regard to any reaction with grout and/or concrete. Wood shall not be used.

2.05. EPOXY COATING

A. Where specified, the minimum thickness of coating applied electrostatically to the reinforcing steel shall be 0.3 mm. Epoxy coating shall be in accordance with ASTM A775 or ASTM A934. Bend test requirements are waived. Bearing plates and nuts encased in the pile concrete footing need not be epoxy coated.

2.06. FINE AGGREGATE

A. If sand - cement grout is used, sand shall conform to ASTM C144/AASHTO M45.

2.07. GALVANIZATION

A. If used, galvanization shall meet the requirements of ASTM A153.

2.08. GROUT

A. Neat cement or sand/cement mixture with a minimum 3-day compressive strength of 2,000 psi and a 28-day compressive strength of 4,000 psi per AASHTO T106/ASTM C109.

2.09. PERMANENT CASING PIPE

A. Permanent steel casing/pipe shall have the diameter and at least minimum wall thickness shown on the approved Working Drawings. The permanent steel casing/pipe:

1. Shall meet the Tensile Requirements of API 5CT (N80), except the yield strength shall be a minimum of 80,000 psi to 11,0000 psi as used in the design submittal.

2. May be new "Structural Grade" (a.k.a. "Mill Secondary") steel pipe meeting above but without Mill Certification, free from defects (dents, cracks, tears) and with two coupon tests per truckload delivered to the fabricator.

B. For permanent casing/pipe that will be welded for structural purposes, the following material conditions apply:

1. the carbon equivalency (CE) as defined in AWS D1.1, Section XI5.1, shall not exceed 0.45, as demonstrated by mill certifications;

2. the sulfur content shall not exceed 0.05%, as demonstrated by mill certifications.

C. For permanent casing/pipe that will be shop or field welded, the following fabrication or construction conditions apply:

1. the steel pipe shall not be joined by welded lap splicing;

2. welded seams and splices shall be complete penetration welds;

3. partial penetration welds may be restored in conformance with AWS D1.1;

4. the proposed welding procedure certified by a welding specialist shall be submitted for approval.

D. Threaded casing joints are not permitted on this Project.

2.10. PLATES AND SHAPES

A. Structural steel plates and shapes for pile top attachments shall conform to ASTM A36/AASHTO M183, or ASTM A572/AASHTO M223.

2.11. REINFORCING BARS

A. Reinforcing steel shall be deformed bars in accordance with ASTM A615/AASHTO M31, Grade 75 or ASTM A722/AASHTO M275, Grade 150.

B. When a bearing plate and nut are required to be threaded onto the top end of reinforcing bars for the pile top to footing anchorage, the threading may be continuous spiral deformed ribbing provided by the bar deformations (e.g., Dywidag or Williams continuous threadbars) or may be machine cut into a reinforcing bar. If threads are cut into a reinforcing bar, the next larger bar number designation from that shown on the Plans shall be provided, at no additional cost.

C. Bar tendon couplers, if required, shall develop the same ultimate tensile strength of the bars without evidence of any failure.

2.12. SHEATHING

A. Smooth plastic sheathing, including joints, shall be watertight. Polyvinyl chloride (PVC) sheathing shall conform to ASTM D1784, Class 13464-B.

2.13. WATER

A. Water used in the grout mix shall conform to AASHTO T26 and shall be potable, clean, and free from substances that may be injurious to cement and steel.

PART 3 - EXECUTION

3.01. SITE DRAINAGE CONTROLS

A. The Contractor shall control and properly dispose of drill flush and construction related waste, including excess grout, in accordance with the standard specifications and all applicable local codes and regulations.

B. Provide positive control and discharge of all surface water that could adversely affect construction of the micropile installation. Maintain all features, pipes and/or conduits used to control surface water during construction.

C. Repair damage caused by surface water at no additional cost.

D. Upon substantial completion of the Work, remove surface water control features, pipes or conduits from the site. Alternatively, with the approval of Woodland Pulp and the Engineer, pipes or conduits that are left in place may be fully grouted and abandoned or left in a way that protects the structure and all adjacent facilities from migration of fines through the pipe or conduit and potential ground loss.

E. Immediately contact the Engineer if unanticipated existing subsurface drainage structures are discovered during excavation or drilling. Suspend work in these areas until remedial measures meeting the Engineer's approval are implemented. Cost of remedial measures or repair work resulting from encountering unanticipated subsurface drainage structures, will be paid for as Extra Work provided they were approved in advance by the Engineer and Maine DMR.

3.02. EXCAVATION

A. Coordinate the work and the excavation so the micropile structures are safely constructed. Confer with Woodland Pulp and the Engineer in advance with regard to any excavations that have the potential to undermine existing active structures.

B. Perform the micropile construction preparation and related excavation in accordance with the Plans and approved submittals. No excavations steeper than those specified herein or shown on the Plans will be made above or below the micropile structure locations without written approval of the Engineer.

C. Properly manage all excavated material to prevent stormwater impacts and interference with the Work.

D. If any underpinning or other stabilization of existing foundations or structures is required, notify the Engineer to discuss an approach and implement the approved approach as paid for Extra Work.

3.03. MICROPILE ALLOWABLE CONSTRUCTION TOLERANCES

A. Centerline of piling shall not be more than 3 inches from indicated plan location.

B. Pile shall be plumb within 2 percent of total-length plan alignment.

C. Top elevation of pile shall be plus 1 inch or minus 2 inches maximum from vertical elevation indicated.

D. Centerline of reinforcing steel shall not be more than 0.75 inch from indicated location.

3.04. MICROPILE INSTALLATION

The micropile Contractor shall select the drilling method, the grouting procedure, and the grouting pressure(s) used for the installation of the micropiles. The micropile Contractor is also responsible for verifying the Engineer's estimated grout take volume and supplying an adequate total quantity of grout for field placement and material procurement considerations up to the limit identified herein.

A. Drilling:

1. The drilling equipment and methods shall be suitable for efficient and safe drilling through the conditions to be encountered, without causing damage to any overlying or adjacent structures or services.

2. Temporary casing or other approved method of pile drillhole support will be required in caving or unstable ground to permit the pile shaft to be formed to the minimum design drillhole diameter and length. The Contractor's proposed method(s) to provide drillhole support and to prevent detrimental ground movements shall be reviewed by the Engineer. Detrimental ground movement is defined as movement which requires remedial repair measures. Use of drilling fluid containing bentonite is not allowed.

3. Costs of removal or remedial measures due to encountering unanticipated subsurface obstructions will be paid for as Extra Work provided they are approved in advance by the Engineer and Maine DMR.

B. Pipe Casing and Reinforcing Bars Placement and Splicing:

1. Reinforcement may be placed either prior to grouting or placed into the grout-filled drillhole before temporary casing (if used) is withdrawn. Reinforcement surfaces shall be free of deleterious substances such as soil, mud, grease or oil that might contaminate the grout or coat the reinforcement and impair bond. Pile cages and reinforcement groups, if used, shall be sufficiently robust to withstand the installation and grouting process and the withdrawal of the drill casings without damage or disturbance.

2. The Contractor shall check pile top elevations and adjust all installed micropiles to the planned elevations.

3. Centralizers and spacers (if used) shall be provided at 10 feet maximum spacing along the reinforcement. The upper and lower most centralizer shall be located a maximum of 5 feet from the top and bottom of the micropile. Centralizers and spacers shall permit the free flow of grout without misalignment of the reinforcing bar(s) and permanent casing. The central reinforcement bars with centralizers shall be lowered into the stabilized drillhole and set. The reinforcing steel shall be inserted into the drill hole to the desired depth without difficulty. Partially inserted reinforcing bars shall not be driven or forced into the hole. Contractor shall redrill and reinsert reinforcing steel when necessary to facilitate insertion.

4. Lengths of casing and reinforcing bars to be spliced shall be secured in proper alignment and in a manner to avoid eccentricity or angle between the axes of the two lengths to be spliced. Splices and threaded joints shall meet the requirements of Materials Section 2.0. Threaded pipe casing joints will not be permitted. When multiple bars are used, bar splices shall be staggered at least 1 foot.

C. Grouting:

1. Micropiles shall be primary grouted the same day the load transfer bond length is drilled. The Contractor shall use a stable neat cement grout or a sand cement grout with a minimum 28- day unconfined compressive strength of 4,000 psi.

2. Admixtures, if used, shall be mixed in accordance with manufacturer's recommendations.

3. The grouting equipment used shall produce a grout free of lumps and undispersed cement.

4. The Contractor shall have means and methods of measuring the grout quantity and pumping pressure during the grouting operations. The grout pump shall be equipped with a pressure gauge to monitor grout pressures. A second pressure gauge shall be placed at the point of injection into the pile top. The pressure gauges shall be capable of measuring pressures of at least 150 psi or twice the actual grout pressures used, whichever is greater.

5. The grout shall be kept in agitation prior to mixing. Grout shall be placed within one hour of mixing. The grouting batch and equipment shall be sized to enable each pile to be grouted in one continuous operation.

6. The grout shall be injected from the lowest point of the drill hole and injection shall continue until uncontaminated grout flows from the top of the pile. The grout may be pumped through grout tubes, casing, hollow-stem augers, or drill rods.

Temporary casing, if used, shall be extracted in stages ensuring that, after each length of casing is removed the grout level is brought back up to the design level before the next length is removed. The tremie pipe or casing shall always extend below the level of the existing grout in the drillhole.

7. The grout pressures and grout takes shall be controlled to prevent excessive heave or fracturing of rock or soil formations.

8. Grout within the micropiles shall be allowed to attain the required design strength prior to being loaded.

9. If the Contractor elects to use a post-grouting system, Working Drawings and details shall be submitted to the Engineer for review in accordance with Section 1.05, Pre-installation Submittals.

D. Ground Heave or Subsidence:

1. During construction, the Contractor shall observe the conditions in the vicinity of the micropile construction site on a daily basis for signs of ground heave, lateral displacement, or subsidence.

2. Immediately notify the Engineer if signs of movements are observed.

3. The Contractor shall immediately suspend or modify drilling or grouting operations if ground heave, lateral displacement or subsidence is observed, if the micropile structure is adversely affected, or if adjacent structures are damaged, or have the potential to be damaged, from the drilling or grouting.

4. If the Engineer determines that the movements require corrective action, the Contractor shall take corrective actions necessary to stop the movement or perform repairs.

5. When due to the Contractor's methods or operations or failure to follow the specified/approved construction sequence, as determined by the Engineer and Maine DMR, the costs of providing corrective actions will be borne by the Contractor. When due to differing site conditions, as determined by the Engineer and Maine DMR, the costs of providing corrective actions will be paid as Extra Work.

E. Excessive Grout Take:

1. Estimated grout quantities shall be determined for each micropile in accordance with the Plans. The Engineer's estimated quantities are provided in the Price Component Schedule.

2. Grouting will be checked at approximately 15 minutes from start of grouting, or when grouting has been in progress sufficiently long to indicate trends and to make sure grout mix is adequate.

3. If the micropile hole readily takes excess grout and the grout take does not decrease with time, the Contractor shall gradually thicken the grout mix until the grout take decreases. Grouting shall stop when the grout take exceeds 50 percent of the expected grout volume for the micropile. Alternative measures shall subsequently be implemented that are mutually agreeable between the Contractor and the Engineer.

F. Grout Testing:

1. Grout within the micropile verification and proof test piles shall attain the minimum required 3-day compressive strength of 2,000 psi prior to load testing.

2. Previous test results for the proposed grout mix completed within one year of the start of work may be submitted for initial verification of the required compressive strengths for installation of pre-production verification test piles and initial production piles.

3. During production, micropile grout shall be tested by the Contractor for compressive strength in accordance with AASHTO T106/ASTM C109 at a frequency of no less than one set of three 2 inch grout cubes from each grout plant each day of operation or per every 10 piles, whichever occurs more frequently. The compressive strength shall be the average of the 3 cubes tested.

4. Grout consistency as measured by grout density shall be determined by the Contractor per ASTM C188/AASHTO T133 or API RP-13B-1 at a frequency of at least one test per pile, conducted just prior to start of pile grouting. The Baroid Mud Balance used in accordance with API RP-13B-1 is an approved device for determining the grout density of neat cement grout. The measured grout density shall be between 1,700 kg/m3 and 1,900 kg/m3.

5. Grout samples shall be taken directly from the grout plant. Provide grout cube compressive strength and grout density test results to the Engineer within 24 hours of testing.

3.05. MICROPILE INSTALLATION RECORDS

A. Contractor shall prepare and submit to the Engineer full-length installation records for each micropile installed. The records shall be submitted within one work shift after that pile installation is completed. The data shall be recorded on the micropile installation log. A separate log shall be provided for each micropile.

B. The micropile installation records shall include:

1. Date(s) and time the hole was drilled.

2. Hole number or designation and location at the structure for the start of the drilled hole.

3. Diameter, depth, and inclination of hole.

4. Note of any obstructions encountered or unusual events occurring during drilling.

5. Depth drilled and elevation of both the top and bottom of the hole.

6. Date and time grouting of the hole was started and ended.

7. Grout take.

8. Notation of any other observations relating to the grouting.

9. Name of the person preparing the logs and the current date.

3.06. PILE LOAD TESTS

A. Perform verification and proof testing of piles at the locations specified herein or designated by the Engineer. Perform compression load testing in accord with ASTM D1143, tension load testing in accord with ASTM D3689, and lateral load testing in accord with ASTM D3966, except as modified herein.

B. Verification Load Tests:

1. Perform pre-production verification pile load testing to verify the design of the pile system and the construction methods proposed prior to installing any production piles. Sacrificial verification test piles shall be constructed in conformance with the approved Working Drawings. Verification test pile(s) shall be installed at locations mutually agreed upon by all parties during the pre-construction site walk.

2. Verification load tests shall be performed to demonstrate that the Contractor installed micropiles will meet the required compression and tension load capacities and load test acceptance criteria and to verify that the length of the micropile bond zone is adequate. The micropile verification load test results must verify the Contractor's design and installation methods, and be reviewed and accepted by the Engineer prior to beginning installation of production micropiles.

3. The drilling-and-grouting method, casing length and outside diameter, reinforcing bar lengths, and depth of embedment for the verification test pile(s) shall be identical to those specified for the production piles at the given locations. The verification test micropile structural steel sections shall be sized to safely resist the maximum test load.

4. The maximum verification and proof test loads applied to the micropile shall not exceed 80 percent of the structural capacity of the micropile structural elements, to include steel yield in tension, steel yield or buckling in compression, or grout crushing in compression. Any required increase in strength of the verification test pile elements above the strength required for the production piles shall be provided for in the Contractor's bid price.

5. The jack shall be positioned at the beginning of the test such that unloading and repositioning during the test will not be required. When both compression and tension load testing is to be performed on the same pile, the pile shall be tested under compression loads prior to testing under tension loads.

C. Testing Equipment and Data Recording:

1. Testing equipment shall include dial gauges, dial gauge support, jack and pressure gauge, electronic load cell, and a reaction frame. All gauges used shall have up-to-date certifications of calibration. The load cell is required only for the creep test portion of the verification test. The Contractor shall provide a description of test setup and jack, pressure gauge and load cell calibration curves.

2. Design the testing reaction frame to be sufficiently rigid and of adequate dimensions such that excessive deformation of the testing equipment does not occur. Align the jack, bearing plates, and stressing anchorage such that unloading and repositioning of the equipment will not be required during the test.

3. Apply and measure the test load with a hydraulic jack and pressure gauge. The pressure gauge shall be graduated in 75 psi increments or less. The jack and pressure gauge shall have a pressure range not exceeding twice the anticipated maximum test pressure. Jack ram travel shall be sufficient to allow the test to be done without resetting the equipment. Monitor the creep test load hold during verification tests with both the pressure gauge and the electronic load cell. Use the load cell to accurately maintain a constant load hold during the creep test load hold increment of the verification test.

4. Measure the pile top movement with a dial gauge capable of measuring to 0.025 mm. The dial gauge shall have a travel sufficient to allow the test to be done without having to reset the gauge. Visually align the gauge to be parallel with the axis of the micropile and support the gauge independently from the jack, pile or reaction frame. Use a minimum of two dial gauges when the test setup requires reaction against the ground or single reaction piles on each side of the test pile.

D. Verification Load Testing Schedule:

1. Test verification piles designated for compression or tension load testing to a maximum test load of 2.0 times the micropile Design Load shown on the Plans or

Working Drawings. The verification pile load tests shall be made by incrementally loading the micropile in accordance with the following cyclic load schedule for both compression and tension loading:

Step	Loading	Applied Load	Hold Time (min.)
1	Apply AL		2.5
2	Cycle 1	0.15 DL	2.5
		0.30 DL	2.5
		0.45 DL	2.5
		AL	1
3	Cycle 2	0.15 DL	1
		0.30 DL	1
		0.45 DL	2.5
		0.60 DL	2.5
		0.75 DL	2.5
		0.90 DL	2,5
		1.00 DL	2.5
		AL	1
4	Cycle 3	0.15 DL	1
		1.00 DL	1
		1.15 DL	2.5
		1.30 DL	10 to 60 minutes
		1.45 DL	2.5
		AL	1
5	Cycle 4	0.15 DL	1
		1.45 DL	1
		1.60 DL	1
		1.75 DL	2.5
		1.90 DL	2.5
		2.00 DL	10
		1.50 DL	5
		1.00 DL	5
		0.50 DL	5
		AL	5

2. Pile top movement shall be measured at each load increment. The load-hold period shall start as soon as each test load increment is applied. The verification test pile shall be monitored for creep at the 1.30 Design Load (DL). Pile movement during the creep test shall be measured and recorded at 1, 2, 3, 4, 5, 6, 10, 20, 30,

50, and 60 minutes. The alignment load shall not exceed 5 percent of the DL load. Dial gauges shall be reset to zero after the initial AL is applied.

3. The acceptance criteria for micropile verification load tests are:

   a. The pile shall sustain the first compression or tension 1.0 DL test load with no more than 1 inch total vertical movement at the top of the pile, relative to the position of the top of the pile prior to testing.

   b. At the end of the 1.30 DL creep test load increment, test piles shall have a creep rate not exceeding 1 mm/log cycle time (1 to 10 minutes) or 2 mm/log cycle time (6 to 60 minutes or the last log cycle if held longer). The creep rate shall be linear or decreasing throughout the creep load hold period.

   c. Failure does not occur at the 2.0 DL maximum test load. Failure is defined as load where the slope of the load versus head settlement curve first exceeds 0.15 mm/kN.

4. The Engineer will provide the Contractor written confirmation of the micropile design and construction within 3 working days of the completion of the verification load tests. This written confirmation will either confirm the capacities and bond lengths specified in the Working Drawings for micropiles or reject the piles based upon the verification test results.

E. Verification Test Pile Rejection:

1. If a verification-tested micropile fails to meet the acceptance criteria, the Engineer may require modifying the installation methods, increasing the bond length, or changing the micropile type.

2. Any modifications of design or construction procedures or cost of additional verification test piles and load testing shall be at the Contractor's expense. At the completion of verification testing, test piles shall be removed down to the elevation specified by the Engineer.

F. Proof Load Tests:

1. Perform proof load tests on the first set of production piles installed at each designated substructure unit prior to the installation of the remaining production piles in that unit. The first set of production piles is the number required to provide the required reaction capacity for the proof tested pile.

2. Proof testing shall be conducted at a frequency of 1 production pile per substructure unit or a minimum of 5% of installed piles. Location of additional proof test piles shall be as designated by the Engineer.

G. Proof Test Load Schedule:

1. Test piles designated for compression or tension proof load testing to a maximum test load of 1.60 times the micropile Design Load shown on the Plans or Working Drawings. Proof tests shall be made by incrementally loading the micropile in accordance with the following schedule, to be used for both compression and tension loading:

Step	Loading	Applied Load	Hold Time (min.)
1	Apply AL		2.5
2	Load Cycle	0.15 DL	2.5
		0.30 DL	2.5
		0.45 DL	2.5
		0.60 DL	2.5
		0.75 DL	2.5
		0.90 DL	2.5
		1.00 DL	2.5
		1.15 DL	2.5
		1.30 DL	10 to 60 minutes
		1.45 DL	2.5
		1.60 DL	2.5
3	Unload Cycle	1.30 DL	4
		1.00 DL	4
		0.75 DL	4
		0.50 DL	4
		0.25 DL	4
		AL	4

2. Depending on performance, either a 10 minute or 60 minute creep test shall be performed at the 1.30DL Test Load. Where the pile top movement between 1 and 10 minutes exceeds 1 mm, the Maximum Test Load shall be maintained an additional 50 minutes. Movements shall be recorded at 1, 2, 3, 5, 6, 10, 20, 30, 50 and 60 minutes. The alignment load shall not exceed 5 percent of DL. Dial gauges shall be reset to zero after the initial AL is applied.

3. The acceptance criteria for micropile proof load tests are:

   a. The pile shall sustain the compression or tension 1.0 DL test load with no more than 1 inch total vertical movement at the top of the pile, relative to the position of the top of the pile prior to testing.

b. At the end of the 1.30DL creep test load increment, test piles shall have a creep rate not exceeding 1 mm/log cycle time (1 to 10 minutes) or 2 mm/log cycle time (6 to 60 minutes). The creep rate shall be linear or decreasing throughout the creep load hold period.

c. Failure does not occur at the 1.60DL maximum test load. Failure is defined as load where the slope of the load versus head settlement curve first exceeds 0.15 mm/kN.

H. Proof Test Pile Rejection:

1. If a proof-tested micropile fails to meet the acceptance criteria, the Contractor shall immediately proof test another micropile within that footing.

2. For failed piles and further construction of other piles, the Contractor shall modify the design, the construction procedure, or both. These modifications may include installing replacement micropiles, incorporating piles at not more than 50% of the maximum load attained, postgrouting, modifying installation methods, increasing the bond length, or changing the micropile type.

3. Any modification that necessitates changes to the structure design shall require the Engineer's prior review and acceptance. Any modifications of design or construction procedures, or cost of additional verification test piles and verification and/or proof load testing, or replacement production micropiles, shall be at the Contractor's expense.

3.07. CLEANUP AND DEMOBILIZATION

A. Upon completion of micropile installation and acceptance of load test results by the Engineer, the Contractor shall remove and legally dispose of excess cuttings, slurry, and other excess materials off of Woodland Pulp's property.

B. The micropile specialty contractor, Contractor, and Woodland Pulp shall perform a final site walk to confirm the site has been properly cleaned-up prior to demobilization of the micropile specialty contractor.

END OF SECTION

SECTION 31 68 00

ROCK ANCHORS

PART 1 - GENERAL

1.01 DESCRIPTION:

A. This section includes materials, fabrication, installation, and testing of the rock anchors (hollow core anchors) as indicated on the Drawings and described herein.

1.02 REFERENCES:

A. American Society for Testing and Materials (ASTM):

1. A36: Standard Specification for Carbon Structural Steel.

2. A123: Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

3. A153: Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

4. A513: Standard Specifications for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing.

5. C109: Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-In. or 50-mm Cube Specimens).

6. E448: Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements.

1.03 SUBMITTALS:

A. Submit shop drawings in accordance with Section 01 30 00.

B. Submit detailed installation drawings that indicate locations of fabricated items and details of installation procedures and equipment. Reproductions of contract documents will not be accepted for this purpose.

C. Submit fabricator and installer qualifications per Paragraph 1.04 below.

D. Submit the following data and test results:

1. Certified mill report for anchor rods with nuts and washers.

2. Certified mill report for bearing plate.

3. Grout mix design and grout mix test results.

4. Manufacturer's product data for admixtures and additives proposed to be added to the grout mixes. Certify the proposed admixtures and additives are compatible with the grout mixes.

5. Include catalogue cuts, technical data, and conformity to referenced ASTM standards.

E. Submit details showing the following information:

1. Hollow Injection bar.

2. Bearing assembly (bearing plate, washer, and nuts).

3. Total length of the anchor rod.

4. Anchor placement and installation instructions.

5. Grouting methods.

6. Contingency plan for unexpected grout loss and/or grout breakout.

F. Submit driller logs and anchor records.

1.04 QUALITY ASSURANCE:

A. Submit anchor fabricator and installer qualifications as follows:

1. The submittals shall, where applicable, identify individuals who will be working on this contract and their relevant experience.

B. Fabricator Qualifications:

1. The anchors shall be fabricated by a manufacturer that has been in the practice of designing and fabricating hollow injection anchors similar in size and scope to this project for at least 5 years.

C. Installer Qualifications and Installation Plan:

1. Submit installation plan and installer qualifications and experience records. Experience records shall identify all the individuals responsible for the anchors and shall include a listing of projects of similar scope performed within the last 5 years along with points of contact.

1.05 ANCHOR INSTALLATION PREPARATORY MEETING:

A. Prior to commencing any work on the hollow bar anchors, the Contractor, including all field personnel to be involved in drilling and installation of the anchors, shall meet with the Engineer to review the Drawings and specifications, work plans, and submittals. Drilling may commence upon approval of the anchor installation plan and procedures and after conducting the Preparatory Meeting.

1.06 DELIVERY, STORAGE, AND HANDLING:

A. Materials shall be suitably wrapped, packaged or covered at the factory or shop to prevent being affected by dirt, water, oil, grease, and rust. Protect materials against abrasion or damage during shipment and handling.

B. Place materials stored at the site above ground on a well-supported platform and covered with plastic or other approved material. Materials shall be protected from adjacent construction operations.

C. Reject and remove from the site an anchor which is damaged by abrasion, cuts, nicks, heavy corrosion, pitting, welds or weld spatter.

D. Store structural material, either plain or fabricated, above ground on platforms, skids, or other supports. Keep material free from dirt, grease, and other foreign matter and protect from corrosion.

PART 2 - PRODUCTS

2.01 ANCHOR SYSTEM:

A. Each anchor system shall consist of the following assembly of components. Refer to the Drawings for the configuration of these components.

B. Anchor:

1. The anchor rod shall be a galvanized hollow injection bar with diameter as shown in the Drawings, Grade 85, conforming to ASTM A513.

a. Minimum yield stress = 85 ksi (minimum)

b. Ultimate stress = 105 ksi (minimum)

c. Elongation = 15% (minimum)

2. Submit certified test reports for each heat or lot of anchor steel with materials delivered to the site. Submit mill reports and a certificate from the manufacturer stating chemical properties, ultimate strengths, yield strengths, modulus of

elasticity, and any other physical properties needed for the required computations, for the type of steel furnished.

3. Manufacturer shall be Williams-Form Engineering or approved equivalent.

2.02 MANUFACTURED UNITS:

A. Bearing Plate Assembly:

1. The bearing plate assembly shall consist of steel bearing plate and nuts top and bottom. All components shall be galvanized steel.

2. The bearing plate shall be of the dimensions and thickness shown on the Drawings. The bearing plate shall conform to ASTM A36.

3. The nut shall be per the anchor manufacturer.

2.03 EQUIPMENT:

A. Drilling Equipment:

1. Provide drilling equipment suitable for advancing the drill tools to the depths and at the alignment required.

B. Grouting Equipment:

2. Grout Mixer:

a. The grout mixer shall be a high-speed, high-shear, colloidal type grout mixer capable of continuous mechanical mixing that will produce uniform and thoroughly mixed grout which is free of lumps and undispersed cement.

b. The mixer shall be equipped with a suitable water and admixture measuring device calibrated so that after each delivery the hands can be conveniently set back to zero.

3. Grout Pump:

a. The grout pump shall be of the positive displacement type and shall be capable of pumping at all flow rates below 20 gpm, shall be capable of pumping at the pressure of at least 50 psi at zero flow rate.

b. For neat cement grout, the pump shall have a screen with 0.125 inch maximum clearance to sieve the grout before being introduced into the pump. Screens are not required for shear type mixers. Make available a pump which is capable of pumping both neat cement grout mixes and sanded grout mixes.

c. The pumping equipment shall have a pressure gauge capable of measuring pressures of at least 150 psi or twice the required grout pressure, whichever is greater.

2.04 CEMENT GROUT:

A. Grout for grouting anchors shall consist of a homogenous, pumpable, stable mixture of Portland cement and water. Submit the proposed mix design to the Engineer for review. The water content shall be the minimum necessary for proper placement, but the water-cement ratio shall not exceed 0.45 by weight. Do not use accelerators.

B. Final proportions of materials shall be based on results of tests made on sample mixtures of grout. The minimum compressive strength of 2-inch cubes, molded, cured, and tested in accordance with ASTM C109, shall be 5,000 psi.

2.05 ANCHOR FABRICATION:

A. General:

1. Fabrication of the anchors shall be as recommended by the manufacturer/supplier. Anchors shall be completely assembled.

2. Fabricated anchors shall be protected, transported and stored in a manner to prevent corrosion or damage to any components.

PART 3 - EXECUTION

3.01 DRILLING HOLES:

A. General:

1. Holes shall be drilled at the locations shown and to the depths and diameters indicated. The locations of the holes may be changed only as approved by the Engineer.

2. The Contractor shall determine the drilling method to be used.

3. Wastewater from drilling operations shall be collected and disposed of off-site in accordance with Federal, State and local requirements; it shall not be discharged directly into the river.

B. Alignment:

1. Tolerances:

a. The anchor hole shall be located within 3-inches of the location shown in the Drawings. The entry angle shall be within 5 degrees of the specified inclination. If the hole alignment does not meet the specified tolerances, notify the Engineer immediately.

2. Alignment Check:

a. Check each drilled hole for alignment as specified herein upon completion of drilling and before commencement of any other work.

3.02 INSTALLATION OF ANCHORS:

A. General:

1. The Contractor is responsible for each drilled hole until the anchor has been installed and grouted.

2. Install anchors per the manufacturer's instructions, as indicated on the Drawings, and as described herein.

3. Anchor installation shall be completed using only application specific tools approved by the anchor manufacturer for this specific application.

4. All the equipment used in handling and placing the anchors shall be such that it does not damage or deteriorate the anchor. Each anchor shall be inspected prior to insertion into the hole.

B. Grouting:

1. Grout the anchor only after it has been fully embedded.

2. Grout the anchor from the lowest gravitational point.

3. Estimated grout quantities shall be determined by the Contractor for each rock anchor.

4. Grouting will be checked at approximately 15 minutes from start of grouting, or when grouting has been in progress sufficiently long to indicate trends and to make sure grout mix is adequate.

5. If the rock anchor hole readily takes excess grout and the grout take does not decrease with time, the Contractor shall gradually thicken the grout mix until the grout take decreases. Grouting shall stop when the grout take exceeds 50 percent of the expected grout volume for the hole. Alternative measures shall subsequently be implemented that are mutually agreeable between the Contractor and the Engineer.

3.03 FIELD QUALITY CONTROL:

A. General:

1. The first three anchors will be pull tested and a minimum of three additional anchors will be pull tested. The Test Load shall not be exceeded.

2. Provide a qualified engineer to evaluate the anchor test results and determine the acceptability of the anchors in accordance with the criteria indicated hereunder. All tests shall be run in the presence of the Engineer or applicable representative.

B. Pull Test:

1. The Contractor shall hire an Independent Testing Agency to test all the rock anchors in accordance with ASTM E488. Use incremental loading for tensile test up to the service design load per anchor as indicated on the Contract Drawings. Consider anchors to have failed if displacement exceeds 0.1 inch or if any failure modes occur.

2. Report the results of all tests and inspections conducted at the project site. Submit test results within 24 hours of physical completion of testing. Do not place or install materials without prior approval.

C. Driller Logs:

1. The Contractor shall submit drilling logs to the Engineer. Separate logs shall be made for each hole. The following information shall be included in the logs or in the records for each hole:

a. Date(s) and time the hole was drilled.

b. Hole number or designation and location at the structure for the start of the drilled hole.

c. Diameter, depth, and inclination of hole.

d. Note of any unusual events occurring during drilling.

e. Depth drilled and elevation of both the top and bottom of the hole.

f. Date and time grouting of the hole was started and ended.

g. Grout take.

h. Notation of any other observations relating to the grouting.

i. Name of the person preparing the logs and the current date.

D. Anchor Records:

1. Upon completion of installation of each anchor, the anchor records shall be submitted to the Engineer. The following information shall be included in the records for each anchor:

   a. Report pull test results.

   b. The pull test results shall include measured lengths of drill holes and anchors, the loads and elongations recorded during testing, and graphs of test results.

   c. In addition, as-built drawings showing the completed installation of the anchors shall be furnished upon completion of installation of all anchors.

3.04 ACCEPTANCE:

A. Replacement of Rejected Anchors

1. Any anchor that fails the pull test or is rejected shall be replaced. A replacement anchor, including potentially a new anchor hole, shall be provided by the Contractor at no expense to Maine DMR. Provide all materials, supplies, equipment, and labor necessary to provide a new anchor assembly. No drilling shall be performed for a replacement anchor until the grouting of all adjacent anchors of the replacement anchor location has been allowed to set for at least 24 hours. Payment will not be made for rejected or failed anchors.

END OF SECTION

Woodland Fish Passage Project
Price Component Schedule

Part I: Lump Sum and Unit Base Pricing

The following lump sum and unit pricing shall constitute full payment for Contractor's completion of the Work as required in the Contract and all reference documents. Estimated quantities are provided as basis for bid pricing only and do not relieve Contractor of its obligation to accurately measure and verify all quantities.

Contractor shall also complete Part II of this Price Component Schedule containing select Unit Prices and enclosing Contractor's rate schedule for changes in accordance with Division 100 General Conditions.

Price Component Schedule - Section 1, Base Bid					
Specification 01 20 00 Item No(s). and Title(s)				Estimated Qty	Lump Sum Price
4.01	Mobilization and Demobilization [(A)]			-	
4.02	Project Management & Quality Control			-	
4.03	Record Documents			-	
4.04	Environmental Controls			-	
4.05-4.06	Cofferdams & Dewatering			-	
4.07	Earthwork			-	
4.08	Rock Excavation (includes hauling & disposal)			1500 CY	
4.09	Concrete Demolition (includes hauling & disposal)			1000 CY	
4.10	Cast-in-Place, Reinforced Concrete			-	
4.12	Structural Steel Framing at Fish Lift			-	
4.13	Exit Flume and Bypass Flume Structural Steel			-	
4.14	Downstream Pipe Systems and Steel Framing			-	
4.15	AWS Pipe Systems and Steel Framing			-	
4.16	Stairs, Grating, Ladders, and Railing			-	
4.17-4.18	Fish Hopper & Cranes and Hoists at Fish Lift			-	
4.19	Gates and Screens			-	
4.20-4.21	Access Road & Access Bridge			-	
4.22	Electrical Enclosure			-	
4.23	System Testing and Start-Up			-	
4.24	Bonds and Insurance			-	
			TOTAL SECTION 1 LUMP SUM COST		
Specification 01 20 00 Item No(s). and Title(s)		Unit	Unit Price	Estimated Qty	Subtotal
4.11	Micropile - Finished Grade to Bedrock	LF		646 [(B)]	
	Micropile - Bedrock Cased, 5' Length	LF		400 [(B)]	
	Micropile - Bedrock Uncased, 8' Length	LF		320	
	Grout Volume	CF		388 [(C)]	
			TOTAL SECTION 1 COST FOR UNIT PRICING ITEMS		

Notes:

(A) Item shall not exceed 5% of the Total Cost.

(B) Quantity includes 5 feet additional micropile length to account for field variability.

(C) Quantity is in cubic feet (CF), calculated from direct micropile lengths (excludes Note B) plus 50%.

Section 2 includes all Work Tasks denoted as "Bid Supplement" in the revised plans and specifications of Exhibits B-1 through B-4 and C (refer to the Bid Amendment 2 List of Plan and Specification Updates) and associated with the "Intake Design for Downstream Fish Passage" plans by Kleinschmidt Associates, Exhibit B-6. Parts 1, 2, and 3 of Section 01 20 00 of the Specifications, Exhibit C, shall apply.

The pay quantity for Section 2 Lump Sum Items shall be percentage of Work completed in alignment with Contractor's Payment Schedule at the time of billing, less any applicable retention, in accordance with the Contract. No specific measurement for payment will be made.

Price Component Schedule - Section 2, Bid Supplement (Intake Work at MaineDMR's Option)		
Bid Supplement Item	**Estimated Qty**	**Lump Sum Price**
Concrete Penetrations & Decking (includes dam penetration and deck demolition and new decking formwork, rebar, dowels, and concrete)	-	
Intake Rack Concrete Footing (includes sediment removal, surface preparation, formwork, rebar, dowels, and concrete)	-	
Intake Rack (includes existing steel demolition, existing rack removal, temporary guide columns and ancillary pieces, and new trash rack panels)	-	
Eel Bypass and Backwash System (includes piping, supports, valves, operators, and/or gates)	-	
Downstream Bypass System & Steel Trough (includes piping, supports, valves, operators, and/or gates)	-	
Automated Rake (includes supports)	-	
Additional System Testing and Start-Up	-	
TOTAL SECTION 2 LUMP SUM COST		

The pay quantity for Section 2 Unit Pricing of strut and support removal shall be per Bent as specified on the Design Plans. Payment will be based on the number of Bents at which the steel members and supports are removed in accordance with the response to the Contractor's RFI submitted for Engineer concurrence with the results of detailed inspection and condition assessment.

Bid Supplement Item	**Unit**	**Unit Price**	**Estimated Qty**	**Subtotal**
Repair or Replacement of Concrete Shelf [(A)]	-	-	-	
Removal of Struts & Supports	Bent		23	
TOTAL SECTION 2 COST FOR UNIT AND T&M PRICING ITEMS				

Notes:

(A) Field verification of presence and condition of the concrete shelf are required. This pricing item is therefore approximate replacement cost to release at DMR's option on a time and materials basis should repair or replacement be warranted. Means, methods, and extents of work shall be mutually agreed between the Contractor and the Engineer.

Woodland Fish Passage Project
Price Component Schedule

Part II: Unit Pricing for Changes

The following Unit Prices may be applied to Changes under Section 109 of Division 100 and shall be valid for the entire duration of the Contract, which shall be complete payment inclusive of but not limited to delivery, hauling, disposal, installation, placement, overhead, profit, fees, and/or taxes as applicable by item. Provide any proposed annual escalation percentage to Unit Prices where indicated. Unit Prices are subject to adjustment when Section 109.1.2 of Division 100 General Conditions applies.

Contractor shall also provide its rate schedule for labor and equipment to be valid for Extra Work, which shall note applicable annual pay increases and escalations that shall be in effect for the entire duration of the Contract.

Unit Pricing for Changes			
Item	**Unit**	**Unit Price**	**Annual Escalation %**
Rock Excavation (includes hauling & disposal)	CY		
Concrete Demolition (includes hauling & disposal)	CY		

The following Unit Prices for equipment not included in Contractor's rate schedule shall also apply for the entire duration of the Contract, with annual escalation if applicable, for standby time where Compensable Delay requirements are met. Specify the unit, such as weekly barge rental, for each item.

Compensable Delay Standby Unit Pricing			
Item	**Unit (i.e. day/wk/mon)**	**Unit Price**	**Annual Escalation %**
Crane Barge Standby Time (if used)			
_____ Standby Time (add as needed)			
_____ Standby Time (add as needed)			
_____ Standby Time (add as needed)			
_____ Standby Time (add as needed)			

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 Marine Resources (Department), an agency of state government with its principal administrative offices located at 21 State House Station, Augusta, Maine, with a mailing address at 21 State House Station, Augusta, Maine 04330, and _____ _____, a corporation or other legal entity organized under the laws of the State of Maine, 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 and reasonably inferable therefrom including Extra Work in conformity with the Contract for the **Woodland Fish Passage System** in the town/city of **Baileyville,** 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 **June 30, 2028.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages of $2,100 per day as more fully set forth in Sections 107.7 and 107.8 of *Division 100 General Conditions*.

C. Price.

The quantities given in the Price Component Schedule 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 1 $_____

Section 2 $_____

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 Bid Documents as updated through advertisement, Division 100 General Conditions, Specifications, Contract Agreement, and Contract Bonds. The Bid Documents include the Notice to Contractors, Contract Bid Book, Amendments, and the following Contract Exhibits:

Exhibit A - Division 100 General Conditions
Exhibit B - Design Plans (General & Demolition, Civil, Structural, Mechanical, Electrical, Intake Design)
Exhibit C - Design Specifications
Exhibit D - Project Overview
Exhibit E - Permits
Exhibit F - Woodland Safety Procedures
Exhibit G - Woodland General Requirements
Exhibit H - Federal Award Conditions

It is agreed and understood that this Contract will be governed by the documents listed above.

E. Amendments

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, 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 *Division 100 General Conditions*, Plans, Specifications, Contract Agreement; and Contract Bonds contained herein for construction of: **Woodland Fish Passage System**

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 lump sum prices in the attached "Price Component Schedule."

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Price Component Schedule" 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 "Price Component Schedule," which may be ordered by the Project Manager, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in *Division 100 General Conditions*, 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 *Division 100 General Conditions* and complete the Work within the time limits given in this Contract.

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 1 ❑
Section 2 ❑

Contract Amount: _____

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

MAINE DEPARTMENT OF MARINE RESOURCES

_____ _____
Date By:Carl Wilson, 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	....