[redacted]

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Re: AIS Waiver due to Availibility
Project #: 17-24-01, ANRC 24-043

April 22, 2026

Mr. Lewis,

I am writing on behalf of the City of Cliton Water Department to request an AIS Waiver for the Raw Water Intake Improvements Project (ANRC 24-043). The project intent is to replace existing encasement pipe that houses a skid mounted submersible turbine pump on the shore of Greers Ferry Lake. The utility (Clinton Water Department) has a replacement pump on the shelf but cannot install it until the encasement pipe is replaced, due to deterioration and corrosion of the existing pipe. The encasement pipe ID must be the same as or larger than the existing pipe, otherwise the replacement pump will not fit inside the encasement. The existing 18" Sch 10 pipe has an ID of 17.5". In addition, the project replaces two tee type intake screens (feeding the encasement) and adds an air burst system to maintain the intake screen cleanliness.

The following materials for the project are being supplied meeting AIS requirements:

1) S.S. air pipe
2) Valves
3) Pipe supports

The following material does not appear to be available from a domestic manufacturer:

1) 18" Schedule 10 Carbon Steel Pipe (Intake Encasement Pipe) – 220 L.F.

Sch 40 and thicker pipe are available domestically; however, we cannot feasibly use a thicker wall pipe (higher schedule) without increasing to a 20" nominal diameter (to maintain the min. 17.5" ID). Plastic materials are not adequate for the application, we need to source the 18" Sch. 10 pipe from available sources, which are non-domestic and cannot meet the AIS requirement.

For these reasons we are requesting an AIS Waiver. I have attached supporting documentation of the efforts in sourcing domestic material. I have also attached a similar granted waiver for a project in Florida for carbon steel pipe.

[redacted]

Four different pipe suppliers were contacted and none of them could provide domestically procured 18” Sch 10 Pipe.

1) [redacted]
2)
3)
4)

Please let me know if you have any questions, or if you need additional information regarding this request.

Sincerely,

[redacted]

SECTION 05 5000

MISCELLANEOUS METALS AND MATERIALS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Furnish all labor, materials, equipment, and incidentals required to complete and install fabricated metal items and furnish all supplementary items necessary for their proper installation. Miscellaneous metal items include, but are not limited to, the following:

1. Embedded steel plates and miscellaneous embedded metal assemblies.

2. Anchors and anchor bolts, except those specified to be furnished under equipment specifications.

3. Metal pipe supports per the Drawings

B. Check Drawings carefully and furnish all anchors, sleeves, bolts, brackets, clips, inserts, angles, loose lintels, tubing, bar stock, plates, and other miscellaneous metal and materials not distinctly specified under other Sections but necessary to complete the work.

1.02 RELATED WORK

A. Concrete reinforcement and concrete accessories are included in Division 3.

1.03 SUBMITTALS

A. Submit shop drawings and product data, in accordance with Section 01_3000, showing materials of construction and details of installation. Submittals shall include at least the following:

1. Shop drawings, erection drawings, product data, etc., showing methods of assembly, anchorage, and connection to other members. Shop drawings will be required for all items included under this Section, unless otherwise noted.

B. Samples

1. Samples of products prior to construction, if requested by the Engineer.

C. Submit product information for specific items indicated below and as selected for use in construction including, but not limited to:

1. Post-installed concrete anchors

2. Cast-in-place concrete anchors

3. Dowel adhesive for post-installed anchors and reinforcing bars

D. Certifications

1. Certified material test reports for materials supplied and certification that materials meet the specified standards: for all shop fabrications, excluding prefabricated components.

2. Welder's certifications, if requested by the Engineer.

1.04 REFERENCE STANDARDS

A. Aluminum Association

1. Aluminum Design Manual

2. Specifications for Aluminum Structures

3. Engineering Data for Aluminum Structures

4. AA M31C22A41

a. M31: Mechanical Finish, Fine Satin

b. C22: Finish, Medium Matte

c. A41: Clear Anodic Coating, Class I

B. American Institute of Steel Construction (AISC)

1. Manual of Steel Construction, 13th Edition

C. American National Standards Institute (ANSI)

1. ANSI A14.3 - Standard for Ladders-Fixed-Safety Requirements

D. American Society for Testing and Materials (ASTM)

1. ASTM A36 - Standard Specification for Carbon Structural Steel

2. ASTM A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless

3. ASTM A108 - Standard Specification for Steel Bars, Carbon, Cold-Finished, Standard Quality

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

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

6. ASTM A167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip

7. ASTM A240 - Standard Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Plate, Sheet, and Strip Pressure Vessels.

8. ASTM A276 - Standard Specification for Stainless Steel Bars and Shapes

9. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60,000 Psi Tensile Strength.

10. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength

11. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

12. ASTM A563 - Standard Specification for Carbon and Alloy Steel Nuts

13. ASTM A992 - Standard Specification for Structural Shapes

14. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

15. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.

16. ASTM B429 - Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.

17. ASTM F436 - Standard Specification for Hardened Steel Washers

18. ASTM F593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs

19. ASTM F594- Standard Specification for Stainless Steel Nuts

20. ASTM F1554 - Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength

21. ASTM E94 - Standard Guide for Radiographic Examination

22. ASTM E164 - Standard Practice for Contact Ultrasonic Testing of Weldments

23. ASTM E165 - Standard Test Method for Liquid Penetrant Examination

24. ASTM E709 - Standard Guide for magnetic Particle Testing

E. American Welding Society (AWS)

1. AWS A2.0 - Standard Welding Symbols

2. AWS D1.1 - Structural Welding Code - Steel

3. AWS D1.2 - Structural Welding Code – Aluminum

F. Occupational Safety and Health Administration (OSHA)

G. 2006 International Building Code (IBC).

H. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply or the edition as specified in the International Building Code shall be used.

1.05 COORDINATION

A. Coordinate completely the work of this Section with the work of other Sections. Verify at the site both the dimensions and work for other trades adjoining items of work in this Section before fabrication and installation of the items specified.

B. Furnish to the pertinent trades all items included under this Section that are to be built into the work of other Sections.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver items to be incorporated into the work of other trades in sufficient time to be checked prior to installation.

B. Deliver anchorage devices with setting drawings, templates, and instructions for installation.

C. Store delivered items off the ground and protected from dirt and weather.

D. Protect items to be incorporated into the work against scratching, splashes, mortar, paint, and other damage during transportation, storage, installation, and until adjacent work by other trades is complete.

E. Repair items that have become damaged or corroded to the satisfaction of the Engineer prior to incorporating them into the work.

1.07 QUALITY ASSURANCE

A. See additional inspection and testing requirements as provided in Section 3.02.

PART 2 PRODUCTS

2.01 STEEL AND IRON FABRICATIONS

A. Steel and Iron

1.	Structural Steel	ASTM A36
2.	Structural Steel Tubing	ASTM A500, Grade B
3.	Welded and Seamless Steel Pipe	ASTM A501 or ASTM A53, Type E or S, Grade B Schedule 40. Use standard malleable iron fittings, galvanized for exterior work
4.	Steel Sheets	ASTM A1008
5.	Gray Iron Castings	ASTM A48, Class 35
6.	Ductile Iron Castings	ASTM A536, Grade 65-45-12
7.	Galvanizing	ASTM A123, Zn w/0.05 percent minimum Ni
8.	Galvanizing, hardware	ASTM A153, Zn w/0.05 percent minimum Ni

B. Fabrication

1. See general fabrication requirements in Article 2.11.

2. Steel construction shall conform to the AISC Manual of Steel Construction, unless otherwise noted.

3. Welding and welding electrodes shall be in accordance with AWS D1.1, unless otherwise noted. Provide Type E70XX low-hydrogen electrodes, unless otherwise specified. Minimum fillet weld size shall be 1/4-in unless otherwise noted.

4. Connection bolts for structural framing shall be 3/4-in diameter A325 bolts, two bolts minimum, unless otherwise noted.

5. Fabricate miscellaneous steel shapes and plates as shown, including: beams, angles, support brackets, anchor bolts, and any other miscellaneous steel called for on the Drawings and not otherwise specified.

6. Finishes

a. All embedded steel items and all steel elements supporting masonry or veneer shall be hot-dip galvanized, unless otherwise noted.

b. Galvanizing shall be done after fabrication.

c. Thoroughly clean steel fabrications of all loose mill scale, rust, grease or oil, moisture, dirt, or other foreign matter and finish in compliance with Division 9 or.

2.02 STAINLESS STEEL FABRICATIONS

A. Materials

1. Stainless Steel Plates, Sheets, and Structural Shapes

a. Exterior, Submerged or Industrial Use	ASTM A276, Type 316 (Type 316L for welded)
b. Interior and Architectural Use	ASTM A276, Type 304
2. Stainless Steel Bolts, Screws and Studs	ASTM F593 CW (Type 316)
3. Stainless Steel Nuts	ASTM F594 (Type 316)
4. Stainless Steel Washers	ASTM A240 (Type 316)

B. Fabrication

1. See general fabrication requirements in Article 2.11.

2.03 ALUMINUM FABRICATIONS

A. General

1. Aluminum alloy designations shall be in accordance with the designations of the Aluminum Association.

B. Materials

1. Aluminum Extruded Pipe	ASTM B429, Alloy 6063 T6
2. Aluminum Extruded Shapes	ASTM B221, Alloy 6061 T6
3. Aluminum Sheet and Plate	ASTM B209, Alloy 6061 T6

C. Fabrication

1. See general fabrication requirements in Section 2.11.

2. Aluminum construction shall conform to the standards and specifications of the Aluminum Association, unless otherwise noted.

3. Fabricate miscellaneous aluminum shapes and plates as shown. Furnish all miscellaneous aluminum shown but not otherwise detailed. Structural shapes and extruded items shall comply with the dimensions on the Drawings within the tolerances published by the Aluminum Association.

4. Weld aluminum work on the unexposed side when possible in order to prevent pitting or discoloration of exposed aluminum surfaces.

5. Use appropriate weld filler material as required by the Aluminum Design Manual for respective aluminum alloys.

6. Finishes

   a. All exposed aluminum surfaces shall have fabricator's standard mill finish unless otherwise specified.

2.04 ANCHORS, BOLTS, AND FASTENING DEVICES

A. Furnish anchors, bolts, fasteners, etc., as necessary for installation for the work of this Section or as specified for securing the work of other Sections.

B. Materials

1.	Carbon Steel Bolts and Studs	ASTM A307, Grade A (hot dip galvanized nuts and washers where noted), ASTM A108, or ASTM F1554, Grade 36 - Standard headed anchor bolts
2.	Carbon Steel Nuts	ASTM A563
3.	Carbon Steel Washers (Grade A, Hex, UNO)	ASTM F436
4.	High Strength Steel Bolts, Nuts and washers	ASTM A325 (mechanically galvanized per ASTM B695, Class 50, where noted)
	a. Elevated Temperature Exposure	Type I
	b. General Application	Type I or Type II

C. Fasten aluminum and stainless-steel members utilizing Type 316 stainless steel machine bolts. Fasten iron or steel members utilizing steel machine bolts, unless otherwise noted. Galvanized steel members shall be fastened utilizing galvanized steel or zinc-plated fasteners, unless otherwise noted.

D. Unless otherwise noted, drilled concrete anchors shall be adhesive type or expansion type anchor bolts as specified below:

1. Adhesive anchors shall consist of a metal stud assembly and a two-component resin anchoring system. Chemical resins shall be polyester or vinylester resin, combined with a hardener and aggregates, as applicable. Stud assemblies shall consist of an all-thread anchor rod with nut and washer, unless otherwise noted on the Drawings. Provide manufacturer's recommended installation tools for installing anchor components. Install anchors in full compliance with the manufacturer's recommendations.

   a. Adhesive anchors shall be: [redacted] or [redacted] (seismic applications) as manufactured by [redacted] or approved equal. Anchor rods shall be of the size and type designated on the Drawings. Where specifically indicated on the Drawings, the adhesive anchoring system noted shall be used; no substitutions.

2. Expansion anchors shall be wedge type anchors of the sizes and minimum embedment as noted on the Drawings, complete with nuts and washers. Embedment depth, side over,

and spacing shall be in accordance with the manufacturer's recommendations and as shown on the Drawings.

a. Expansion anchors shall be: "[redacted]" as manufactured by [redacted] or approved equal. These anchors shall be used when anchoring into new or existing concrete construction.

b. Expansion anchors shall be: [redacted]" as manufactured by [redacted] or approved equal. These anchors shall be used when anchoring into new or existing grouted masonry construction.

3. Anchors used in masonry construction shall be as indicated in Section 2.04.E.2.b above where anchors are installed into grouted cells. Additionally, [redacted] adhesive anchoring system, or approved equal, may also be used in grouted masonry construction. Where anchors are installed in hollow cells, adhesive anchors shall be a three-part stud, screen and chemical dispenser anchoring system. Adhesive cartridges shall contain premeasured amounts of resin and hardener which are mixed and deposited in a screen tube by a dispenser. Stud assemblies shall consist of an all-thread anchor rod with nut and washer. Anchors shall be [redacted] or equal.

E. Headed anchor studs shall be [redacted] or [redacted], unless otherwise noted, by [redacted], or equal. Studs shall be welded per the manufacturer's recommendations and in accordance with AWS D1.1.

F. Compound masonry anchors shall be of the "two unit" type and shall be [redacted] anchors as manufactured by [redacted]; equal by [redacted] or [redacted] or equal.

G. Machine bolts and nuts shall conform to Federal Specification FF-B-575C. Bolts and nuts shall be hexagon type. Bolts, nuts, screws, washers and related appurtenances shall be Type 316 stainless steel.

H. Toggle bolts shall be by [redacted]; [redacted]; [redacted]; or equal.

I. Embedded anchor bolts shall be 5/8-in diameter (minimum), unless otherwise noted. Protect the exposed portions of embedded anchor bolts during concrete placement.

2.05 NOT USED

2.06 NOT USED

2.07 NOT USED

2.08 NOT USED

2.09 MISCELLANEOUS STEEL

A. Miscellaneous steel items shall include: beams, angles, lintels, metal stairs, support brackets, base plates for other than structural steel or equipment, closure angles, holddown straps and lugs, door frames, splice plates, subframing at roof openings and any other miscellaneous steel called for on the Drawings and not otherwise specified.

B. Steel pipe pieces for sleeves, lifting attachments and other functions shall be Schedule 40 pipe unless otherwise shown on the Drawings. Wall and floor sleeves, of steel pipe, shall have welded circumferential steel waterstops at mid-length.

C. Lintels, relief angles or other steel supporting masonry or embedded in masonry shall be galvanized.

D. All steel finish work shall be thoroughly cleaned, by effective means, of all loose mill scale, rust and foreign matter and shall be given one shop coat of primer compatible with the finish coat after fabrication but before shipment. Paint shall be omitted within 3-in of proposed field welds. Paint shall be applied to dry surfaces and shall be thoroughly and evenly spread and well worked into joints and other open spaces.

F. Galvanizing, where required, shall be the hot-dip zinc process after fabrication. Coating shall be not less than 2 oz/sq ft of surface. See Specification Section 05910 for additional information regarding galvanizing.

2.10 MISCELLANEOUS STAINLESS STEEL

A. Miscellaneous stainless-steel items shall include: beams, angles, bar racks and any other miscellaneous stainless steel called for on the Drawings and not otherwise specified.

2.11 FABRICATION - GENERAL

A. Form all miscellaneous metal work true to detail, with clean, straight, sharply defined profiles, tight joints, and smooth surfaces of uniform color and texture. Provide fabrications free from defects impairing strength or durability. Drill or punch holes and smooth edges. Ease exposed edges to a small, uniform radius. Fabricate supplementary pieces necessary to complete each item even though such pieces are not specifically shown or specified.

B. Supply components required for anchorage of fabrications. Connections and accessories shall be of sufficient strength to safely withstand stresses and strains to which they will be subjected. Steel accessories and connections to steel or cast iron shall be steel, unless otherwise specified. Threaded connections shall be made so that the threads are concealed by fittings.

C. Welded joints shall be rigid and continuously welded unless otherwise specified or shown. Dress the face of welds flush and smooth. Continuously weld and grind smooth welds that will be exposed. Exposed joints shall be close fitting and jointed where least conspicuous. Conceal fastenings where practical. Punch or drill for temporary field connections and for attachment of the work of other trades.

D. Welding of parts shall be in compliance with the latest edition of AWS D1.1 or AWS D1.2 as applicable, and shall only be done where shown, specified, or permitted by the Engineer. Welding shall be performed only by welders certified to perform the required welding in compliance with the requirements of the AWS Code. Component parts of built-up members to be welded shall be adequately supported and clamped or held by other adequate means to hold the parts in proper relation for welding.

E. Where indicated, pipe penetrations in existing construction shall be core drilled and sealed with mechanical seals ([redacted]) or equivalent.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Install all items furnished in accordance with this Section, except items to be embedded in concrete that shall be installed under Division 3. Items to be attached to concrete after such work is completed shall be installed in compliance with the details shown. Furnish to appropriate trades all anchors, sockets, or fastenings required for securing work to other construction.

B. Set metal work level, true to line, and plumb, as indicated.

C. Weld field connections and grind smooth where practical. Clean and strip primed steel items to bare metal where field welding is required. Conceal fastenings where practical.

D. Touch-up abrasions to finish or primer coatings immediately after erection and prior to both final coating and final acceptance.

E. Specialty products shall be installed in accordance with the manufacturer's recommendations.

F. Expansion bolts shall be checked for tightness a minimum of 24 hours after initial installation.

G. Install adhesive capsule anchors using manufacturer's recommended drive units and adapters and in compliance with the manufacturer's recommendations.

H. Headed anchor studs shall be welded in accordance with manufacturer's recommendations.

I. All railings shall be erected to line and plumb.

J. All steel surfaces that come into contact with exposed concrete or masonry shall receive a protective coating of an approved heavy bitumastic troweling mastic applied in accordance with the manufacturer's instructions prior to installation.

K. Break contact between dissimilar metals as shown on the Drawings or as specified in paragraph 3.01L and M.

L. Field or shop apply coatings for installation of metal fabrications according to the following schedule. For embedded items, coat the embed.

1. All unbonded steel surfaces in contact with exposed concrete or masonry shall receive a protective coating of an approved epoxy paint as specified in Division 9, applied in compliance with the manufacturer's instructions prior to installation.

2. Where aluminum contacts a dissimilar metal, apply a heavy brush coat of zinc-chromate primer followed by two coats of aluminum metal and masonry paint to the dissimilar metal. Alternately, where approved, provide neoprene isolator pads, 1/4-in thick, 85 durometer plus or minus 5 durometers, Shore A hardness, sized for full width and length of connection.

3. Where aluminum contacts masonry or concrete, apply a heavy coat of approved alkali resistant paint to the masonry or concrete.

4. Where aluminum contacts wood, apply two coats of aluminum metal and masonry paint to the wood.

5. Steel, equipment & piping subject to wastewater immersion or splash above wastewater stream shall be prepared according to SSPC-SP5 White Metal Blast Cleaning, with one coat of [redacted] at 4 to 6 mils DFT.

5. Field paint exposed metal surfaces as specified in Division 9, Painting.

M. Between aluminum gratings, aluminum stair treads, or aluminum handrail brackets and steel supports, insert 1/4-in thick neoprene isolator pads, 85 durometer plus or minus 5 durometer, Shore A hardness, sized for full width and length of bracket or support.

3.02 FIELD INSPECTION/QUALITY CONTROL

A. The UTILITY or the registered design professional in responsible charge acting as the UTILITY's agent shall employ one or more special inspectors to provide inspections during construction.

B. After arrival on-site and prior to installation, inspect all received materials including bolts, structural steel, aluminum grating, aluminum structural shapes, ladders, stairs, and all other items referenced in the specification to ensure that materials received are as specified herein, on the drawings, and that they comply with all referenced standards.

C. Structural Inspections (Fabricators):

1. Special inspection of fabricators shall be performed in accordance with Section 1704.2 of the IBC.

D. Structural Inspections (Construction):

1. Special inspection of steel construction shall be performed in accordance with Section 1704.3 and table 1704.3 of the IBC.

E. Structural Inspections (Welding):

1. All field welding will be inspected visually by AWS certified welding inspectors provided by the UTILITY. Additional non-destructive testing may be required at the discretion of the welding inspector and based upon observations made during visual inspection in which weld adequacy or strength is in question. Follow AWS standards/guidelines for non-destructive testing procedures at the discretion of the welding inspector. Comply with all requests of inspectors to correct deficiencies. The following non-destructive tests are allowed and shall be used at the discretion of the welding inspector:

2. Liquid Penetrant Inspection: ASTM E165.

3. Magnetic Particle Inspection: ASTM E709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.

4. Ultrasonic Inspection: ASTM E164.

5. Radiographic Inspection: ASTM E94.

F. All post-installed concrete anchors shall be inspected to ensure compliance with the manufacturer's recommended installation instructions, indicated bolt size, and embedment as shown on the Contract Drawings. Inspection services shall be provided by an independent inspector employed by the UTILITY.

1. Test a minimum of 5%, or as directed by the UTILITY under consultation of the employed independent inspector, of each type and size of drilled-in anchor in each substrate they are installed. Drilled-in anchors shall be proof loaded by the independent testing laboratory employed by the UTILITY. Adhesive anchors and capsule anchors, if applicable, shall not be torque tested unless otherwise directed by the Engineer. If any of the tested anchors fail to achieve 1.5 times the expected allowable design loads per the manufacturer, all anchors of the same diameter, embedment, and type as the failed anchor shall be tested unless otherwise directed by the UTILITY/Engineer. The testing agency shall verify that test loads will not overstress the embedded anchors.

a. Proof loads (tension only) shall be applied with a calibrated hydraulic ram. Displacement of adhesive and capsule anchors at the specified load shall not exceed D/10, where D is the nominal anchor diameter.

b. Field testing and subsequent reports shall be performed in accordance with ASTM E488. Field testing shall be of tension capacity of the installed anchor only.