



Snyderville Basin Water Reclamation District

SNYDERVILLE BASIN WATER RECLAMATION DISTRICT
PARK CITY, UTAH

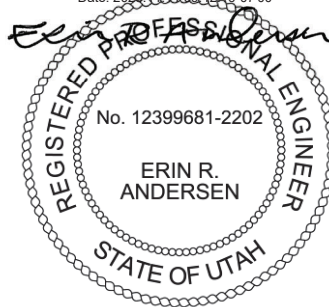
BIOREACTOR WEIR GATE ACTUATOR EQUIPMENT

PROCUREMENT DOCUMENTS

VOLUME 1 OF 1

NOVEMBER 2025

Digitally signed by Erin R. Andersen
Contact Info: Carollo Engineers, Inc.
Date: 2025.11.08 12:16:07'00'



SNYDERVILLE BASIN WATER RECLAMATION DISTRICT

BIOREACTOR WEIR GATE ACTUATOR EQUIPMENT

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DOCUMENT 00101

ADVERTISEMENT FOR PROPOSALS AND LEGAL NOTICE - PROCUREMENT

SNYDERVILLE BASIN WATER RECLAMATION DISTRICT

2800 HOMESTEAD RD.

PARK CITY, UTAH, 84098

For procurement of Bioreactor Weir Gate Actuators

PROPOSAL DUE DATE

Sealed Bids will be received at the office of Carollo Engineers, Inc. until 2:00 p.m., local time, on December 3, 2025.

Proposals may also be emailed to Erin Andersen, P.E. at eandersen@carollo.com.

DESCRIPTION OF THE GOOD AND SERVICES

The Goods and Services are generally described as follows: Two new electric actuators and required appurtenances to be installed on the existing bioreactor weir gates.

All Proposals must be in accordance with the Procurement Documents on file with the Snyderville Basin Water Reclamation District, and at the offices of Carollo Engineers, Inc.

Copies of the Bidding Documents may be obtained from Carollo Engineers at the address indicated in this Document.

OWNER'S RIGHTS

Owner reserves the right to reject any or all Proposals, including without limitation the rights to reject any or all nonconforming, nonresponsive, or conditional Proposals, and to reject the Proposal of any Supplier if Owner believes that it would not be in the best interest of Owner to make an award to that Supplier. Owner also reserves the right to waive formalities.

If the Contract is to be awarded, Owner will give the Successful Supplier a Notice of Award within the number of days set forth in the Proposal Form.

Snyderville Basin Water Reclamation District

END OF DOCUMENT

DOCUMENT 00204

INSTRUCTIONS TO SUPPLIER - PROCUREMENT

ARTICLE 1 - DEFINED TERMS

- 1.01 Terms used in these Instructions to Suppliers will have the meanings indicated in Document 00701 - General Conditions - Procurement and Document 00801 - Supplementary Conditions - Procurement. Additional terms used in these Instructions to Suppliers have the meanings indicated below.
- A. Manufacturer, Supplier, and Seller are used synonymously in these Procurement Documents.

ARTICLE 2 - PROCUREMENT DOCUMENTS

- 2.01 Supplier may obtain complete sets of the Procurement Documents, as stated in the Request for Proposal.
- 2.02 Supplier must use a complete set of the Procurement Documents in preparing the Proposal; neither Buyer nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Procurement Documents.
- 2.03 Buyer and Engineer make copies of Procurement Documents available on the above terms only for obtaining Proposals for furnishing Goods and Special Services, and do not authorize or confer a license for any other use.

ARTICLE 3 - QUALIFICATIONS OF MANUFACTURERS

- 3.01 Buyer may at any time conduct such investigations as Buyer deems necessary to establish the responsibility, qualifications, and financial ability of Supplier, and after the opening of Proposals may require a Supplier to submit documentation of its qualifications, including, but not limited to, financial data and documentation (references) of previous experience providing goods and services comparable to the specified Goods and Special Services.

ARTICLE 4 - SITE VISIT

- 4.01 Supplier may visit the Point of Destination and the site where the Goods are to be installed and Special Services will be provided, taking into account observable local and site conditions that may affect the delivery, cost, progress, and furnishing of the Goods and Special Services. Arrangements for such a visit may be made through Engineer.
- 4.02 A pre-bid conference will not be held for this procurement.
- 4.03 Interpretations or clarifications considered necessary by Engineer in response to questions will be issued by Addenda delivered to all parties recorded by Engineer as having received the Procurement Documents. Only answers in the Addenda will be

binding. Oral statements, interpretations, and clarifications may not be relied upon in the preparation of a Proposal and will not be binding or legally effective.

ARTICLE 5 - INTERPRETATIONS AND ADDENDA

- 5.01 All questions about the meaning or intent of the Procurement Documents are to be submitted to Engineer in writing to Erin Andersen at eandersen@carollo.com.

Provide instruction for submitting questions to the Engineer.

- 5.02 Interpretations or clarifications considered necessary by Engineer in response to such written questions will be issued by Addenda mailed or delivered to all parties recorded as having received the Procurement Documents. Questions received less than 5 days prior to the date for opening of Proposals will not be answered. Only answers in the Addenda will be binding. Oral statements, interpretations, and clarifications may not be relied upon in the preparation of a Proposal and will not be binding or legally effective.
- 5.03 Addenda may be issued to clarify, correct, or change the Procurement Documents as deemed advisable by Buyer or Engineer.

ARTICLE 6 - PROCUREMENT CONTRACT TIMES

- 6.01 See applicable provisions in the Procurement Agreement.

ARTICLE 7 - LIQUIDATED DAMAGES

- 7.01 Any provisions for liquidated damages, such as those for Seller's failure to attain a specified Milestone such as the delivery of the Goods, are set forth in the Procurement Agreement.

ARTICLE 8 - CONFIDENTIALITY OF PROPOSAL INFORMATION

- 8.01 Confidential information is information in the Proposal, or in documents submitted by Supplier with the Proposal or submitted subsequent to the opening of Proposals in support of the Proposal, that Supplier clearly and prominently labels in writing to be a trade secret, proprietary, or confidential. Proposals will be opened and accompanying documents, if any, will be maintained in a manner that endeavors to avoid disclosing confidential information to third parties, to the extent allowed by Laws and Regulations.
- 8.02 Supplier shall clearly and prominently mark confidential information with the word "CONFIDENTIAL" on each page or sheet or on the cover of bound documents. Place "CONFIDENTIAL" stamps or watermarks so that they do not obscure any of the required information on the document, either in the original or in a way that would obscure any of the required information in a photocopy of the document.
- 8.03 If Buyer is requested to disclose confidential information, becomes legally compelled to disclose confidential information, or is required by a regulatory body, governing agency, or controlling authority to disclose confidential information, or make any other disclosure that is prohibited or otherwise constrained by these Procurement Requirements, Buyer will provide Supplier with prompt notice so Supplier may seek a protective order or other appropriate remedy. Supplier will be solely responsible for submitting to the regulatory

body, governing agency, or controlling authority any arguments, briefs, memoranda, motions, authorities, or other information in opposition to disclosure.

- 8.04 Buyer's obligations with respect to confidential information are nullified by the following exceptions:
- A. Confidential information becomes a part of the public domain through publication or otherwise, through no fault of the Buyer;
 - B. Buyer can demonstrate through suitable documentation that the confidential information was already in the Buyer's possession, and not previously marked as confidential, or was otherwise publicly available prior to the date of Proposal submittal;
 - C. The confidential information is subsequently and independently disclosed to the Buyer by a third party who has a lawful right to disclose such information;
 - D. Buyer concludes in good faith that the information is not confidential, or that disclosure is required or justified; or
 - E. Buyer is required to disclose the confidential information by court order or by applicable Laws and Regulations.

ARTICLE 9 - "OR EQUAL" ITEMS

- 9.01 The Procurement Contract, if awarded, will be based on materials and equipment specified or described in the Procurement Documents. Suppliers may propose "or equal" materials and equipment.
- A. The materials and equipment described in the Procurement Documents establish a standard of required type, function, and quality to be met by any proposed "or equal" item.

ARTICLE 10 - PREPARATION OF PROPOSAL

- 10.01 The Proposal Form is included with the Procurement Documents. Additional copies of Procurement Documents may be obtained from the Issuing Office.
- 10.02 All blanks on the Proposal Form must be completed and the Proposal Form must be signed by an individual authorized to act on behalf of the Supplier. Alterations must be initialed by an individual authorized to act on behalf of the Supplier. A Proposal price must be indicated for each item in the Proposal Form. In the case of optional alternates, the words "No Proposal" may be entered.
- 10.03 Supplier must acknowledge all Addenda by filling in the number and date of each Addendum in the Proposal Form and sign where indicated to verify that the Addenda were received. A Proposal that does not acknowledge receipt of all Addenda may be considered non-responsive.
- 10.04 Supplier shall:
- A. Sign the Proposal Form as indicated in the Proposal Form.
 - B. Include evidence of authority to sign.
 - C. Provide information on the individual to be contacted for any communications regarding the Proposal.

- D. Provide evidence of the Supplier's authority and qualification to do business in the locality of the Project, to the extent required, or indicate the ability to obtain such authority and qualification prior to award of the Procurement Contract.
- 10.05 The responsibilities of each Supplier submitting a Proposal are described in the Supplier's representations and certifications set forth in Article 6 of the Proposal Form.

ARTICLE 11 - SUBMITTAL OF PROPOSAL

- 11.01 Supplier shall refer to the advertisement or Request for Proposal for specific identification of the date, time, and place where Proposals are to be submitted.
- 11.02 Supplier must submit one separate unbound copy of the completed Proposal Form the other documents required to be submitted under the terms of the Proposal Form.
- 11.03 A Proposal must be submitted no later than the date and time prescribed and at the place indicated in the Advertisement or Request for Proposals. Submit the Proposal in an envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Proposal is submitted) and the name and address of Supplier. Enclose the other documents required to be submitted with the Proposal as listed in the Proposal Form. If a Proposal is sent by mail or other delivery system, the sealed envelope containing the Proposal shall be enclosed in a separate package plainly marked on the outside with the notation "PROPOSAL ENCLOSED."

ARTICLE 12 - PROPOSALS TO REMAIN SUBJECT TO ACCEPTANCE

- 12.01 All Proposals will remain subject to acceptance for the period stated in Document 00416 - Proposal Form - Procurement.

ARTICLE 13 - EVALUATION OF PROPOSALS AND AWARD OF PROCUREMENT CONTRACT

- 13.01 Buyer reserves the right to reject any and all Proposals, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Proposals.
- 13.02 Proposals will be evaluated by Engineer and Buyer, and will be ranked based on the following criteria:

Criteria	Weight
Capital Cost	50%
Reliability and Ease of Operation and Maintenance	25%
Operation and Maintenance Costs	25%

- 13.03 If Buyer awards the Procurement Contract, such award will be to the responsible Supplier submitting the Proposal with the best overall value.

ARTICLE 14 - BONDS AND INSURANCE

14.01 When the Successful Supplier delivers the signed Procurement Agreement to Buyer, it must be accompanied by required such bonds and acceptable evidence of insurance.

ARTICLE 15 - SIGNING OF PROCUREMENT AGREEMENT

15.01 When Buyer issues a Notice of Award to the Successful Supplier, it will be accompanied by 2 unsigned counterparts of the Procurement Agreement along with the other Procurement Contract Documents identified in the Procurement Agreement.

- A. Within 15 days, Successful Supplier must execute and deliver the required number of counterparts of the Procurement Agreement and any bonds and acceptable evidence of insurance, together with printed and electronic copies of the Procurement Contract Documents.
- B. Within 10 days, Buyer will deliver one fully executed counterpart of the Procurement Agreement to Successful Supplier, together with printed and electronic copies of the Procurement Contract Documents.

ARTICLE 16 - SALES AND USE TAXES

16.01 Sales and use taxes will not be included in the purchase price.

END OF DOCUMENT

DOCUMENT 00416

PROPOSAL FORM - PROCUREMENT

The terms used in this Proposal with initial capital letters have the meanings stated in Document 00204 - Instructions to Suppliers - Procurement, Document 00701 - General Conditions - Procurement, and Document 00801 - Supplementary Conditions - Procurement.

ARTICLE 1 - BUYER AND SUPPLIER

- 1.01 This Proposal is submitted to:
Snyderville Basin Water Reclamation District
- 1.02 The undersigned Supplier proposes and agrees, if this Proposal is accepted, to enter into a Procurement Contract with Buyer in the form included in the Procurement Documents, and to furnish the Goods and Special Services as specified or indicated in the Procurement Documents, for the prices and within the times indicated in this Proposal, and in accordance with the other terms and conditions of the Procurement Documents.

ARTICLE 2 - BASIS OF PROPOSAL

2.01 Lump Sum Price

A. Bioreactor Weir Gate Electric Actuators:

1. Supplier will furnish the Goods and Special Services in accordance with the Procurement Contract Documents and Section 13447 - Electric Actuators for the following Procurement Contract Price(s):

Item	Cost
Cost of 2 Bioreactor Weir Gate Electric Actuators	\$
Cost of Shipping, Startup, and Other Services	\$
Total Lump Sum Cost of Materials and Services	\$

ARTICLE 3 - TIME OF COMPLETION

- 3.01 Supplier agrees that the furnishing of Goods and Special Services will conform to the schedule of Procurement Contract Times set forth in the Procurement Agreement.
- 3.02 Supplier accepts the provisions of the Procurement Agreement as to liquidated damages.

ARTICLE 4 - ATTACHMENTS TO THIS PROPOSAL

4.01 The following documents are attached to and made a condition of this Proposal:

- A. Proposal Form.
- B. Detailed description of equipment/controls.
- C. Operation and maintenance manual for similar equipment.
- D. List of exceptions to the Specifications.
- E. Drawings showing proposed equipment size/layout.
- F. List of references of similar equipment with contact names and numbers.

ARTICLE 5 - SUPPLIER'S ACKNOWLEDGMENTS

5.01 Supplier accepts all terms and conditions of Document 00204 - Instructions to Suppliers - Procurement . This Proposal will remain subject to acceptance for 30 days after the Proposal opening, or for such longer period that Supplier may agree to in writing upon request of Buyer.

5.02 Supplier has examined and carefully studied the Procurement Documents, the related data identified in the Procurement Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date

ARTICLE 6 - SUPPLIER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 Supplier's Representations

- A. In submitting this Proposal, Supplier represents that:
 - 1. Supplier has examined and carefully studied the Procurement Contract Documents.
 - 2. If required by Document 00204 - Instructions to Suppliers - Procurement to visit the Point of Destination and the site where the Goods are to be installed or Special Services will be provided, or if, in Supplier's judgment, any observable local or site conditions may affect the delivery, cost, progress, or furnishing of the Goods and Special Services, then Supplier has visited the Point of Destination and site where the Goods are to be installed or Special Services will be provided (as applicable) and become familiar with and is satisfied as to the observable

local and site conditions that may affect delivery, cost, progress, and furnishing of the Goods and Special Services.

3. Supplier is familiar with and is satisfied as to all Laws and Regulations that may affect the cost, progress, and performance of Seller's obligations under the Procurement Contract.
4. Supplier has carefully studied, considered, and correlated the information known to Supplier with respect to the effect of such information on the cost, progress, and performance of Seller's obligations under the Procurement Contract.
5. Supplier has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Supplier has discovered in the Procurement Contract Documents, and the written resolution (if any) thereof by Engineer is acceptable to Supplier.
6. The Procurement Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of Seller's obligations under the Procurement Contract.
7. The submission of a Proposal will constitute an incontrovertible representation by Supplier that Supplier has complied with every requirement of the Bidding Requirements, that without exception the Proposal (including all Proposal prices) is premised upon furnishing the Goods and Special Services as required by the Procurement Contract Documents.

6.02 Supplier's Certifications

A. Supplier certifies that:

1. This Proposal is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
2. Supplier has not directly or indirectly induced or solicited any other Supplier to submit a false or sham Proposal;
3. Supplier has not solicited or induced any individual or entity to refrain from bidding; and
4. Supplier has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Procurement Contract. For the purposes of this Document:
 - a. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;
 - b. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Buyer, (b) to establish proposal prices at artificial non-competitive levels, or (c) to deprive Buyer of the benefits of free and open competition;
 - c. "collusive practice" means a scheme or arrangement between two or more Suppliers, with or without the knowledge of Buyer, a purpose of which is to establish proposal prices at artificial, non-competitive levels; and
 - d. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process.

This Proposal is offered by:

Supplier:

(typed or printed name of organization)

By:

(individual's signature)

Date:

(date signed)

Name:

(typed or printed)

Title:

(typed or printed)

(If Supplier is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

(individual's signature)

Title:

(typed or printed)

Address for giving notices:

Designated Representative:

Name:

(typed or printed)

Title:

(typed or printed)

Address:

Phone:

Email:

License No.:

Classification:

Limitation:

END OF DOCUMENT

DOCUMENT 00526

AGREEMENT BETWEEN BUYER AND SELLER – PROCUREMENT

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This Procurement Agreement is by and between Snyderville Basin Water Reclamation District ("Buyer") and ("Seller").

Terms used in this Procurement Agreement have the meanings stated in Document 00701 - General Conditions - Procurement and Document 00801 - Supplementary Conditions - Procurement.

Buyer and Seller hereby agree as follows:

ARTICLE 1 - PROCUREMENT CONTRACT

1.01 Goods and Special Services

- A. Seller shall furnish the Goods and Special Services as specified or indicated in the Procurement Contract Documents. The Goods and Special Services are generally described as follows: Two Bioreactor Weir Gate Electric Actuators.

1.02 The Project

- A. The Project, of which the Goods and Special Services are a part, is generally described as follows: East Canyon Water Reclamation Facility 2026 Prepurchase Installation.

1.03 Engineer

- A. Buyer has retained Carollo Engineers ("Engineer"), to prepare Procurement Contract Documents and act as Buyer's representative. Engineer assumes all duties and responsibilities and has the rights and authority assigned to Engineer in the Procurement Contract Documents in connection with Seller's furnishing of Goods and Special Services.

1.04 Point of Destination:

- A. The Point of Destination is designated as:

East Canyon Water Reclamation Facility
2909 West Sackett Rd.
Park City, Utah 84098

ARTICLE 2 - PROCUREMENT CONTRACT TIMES

2.01 Time of the Essence

- A. All time limits for Milestones, including the submittal of Shop Drawings and Samples, the delivery of Goods, and the furnishing of Special Services as stated in the Procurement Contract Documents, are of the essence of the Procurement Contract.

2.02 Schedule of Procurement Contract Times

A. The following schedule sets forth the Procurement Contract Times:

Milestone	Date or Days	Notes
Submit Shop Drawings	30 days	From fully signed Agreement
Deliver acceptable Goods to Point of Destination	May 18, 2026	Delivery may be made in the 30-day period before delivery date

2.03 Shop Drawings and Samples

- A. Submittal of Shop Drawings and Samples: Seller shall submit all Shop Drawings and Samples required by the Procurement Contract Documents to Engineer for its review and approval.
- B. Engineer's Review: It is the intent of the parties that Engineer will conduct its review of Shop Drawings and Samples and issue its approval, or a denial accompanied by substantive comments regarding information needed to gain approval, within 30 days after Seller's submittal of such Shop Drawings and Samples, or within such longer period that is needed because of the quantity and quality of such submittals. Resubmittals will be limited whenever possible.

ARTICLE 3 - PROCUREMENT CONTRACT PRICE

3.01 Procurement Contract Price

- A. The Procurement Contract Price is comprised of the Lump Sum set forth in the attached Proposal Form.

ARTICLE 4 - PAYMENT PROCEDURES

4.01 Submittal and Processing of Applications for Payment

- A. Seller shall submit Applications for Payment in accordance with Article 13 of Document 00701 - General Conditions - Procurement and the following paragraphs. Engineer and Buyer will process such Applications for Payment in accordance with said Article 13.

4.02 Progress Payments; Final Payment

- A. Seller may submit an Application for Payment requesting the stated percentage of Procurement Contract Price upon attainment of each of the following Payment Line Items:

Payment Line Item (Lump Sum)	Percentage of Lump Sum
Receipt of Approval of Shop Drawings and Samples	10
Delivery of Goods to Point of Destination in accordance with the Procurement Contract Documents	70
Final Payment: Completion of startup services, correction of non-conformities, provision of final Operations and Maintenance manuals, submittal of warranties and other final documentation required by the Procurement Contract Documents	20
Total Procurement Contract Price (Lump Sum)	100

ARTICLE 5 - ASSIGNMENT OF PROCUREMENT CONTRACT

5.01 Assignment of Contract

- A. Buyer has the right to assign this Procurement Contract for furnishing Goods and Special Services, but only to a person or entity with sufficient and apparent ability to satisfy all of Buyer's obligations under this Procurement Contract, and Seller hereby consents to such assignment. Forms documenting the assignment of the Procurement Contract, and consent of Seller's surety to the assignment, have been executed by Buyer, Seller, and Seller's surety, and are attached as exhibits to this Procurement Agreement.
- B. If so, assigned the following provisions apply:
1. The Procurement Contract is initially executed in the name of the entity identified in this Document as Buyer and will be assigned by such Buyer (as assignor) to a construction contractor (Contractor/Assignee) designated by such Buyer. The assignment will occur on the effective date of the construction contract between such Buyer (Project Owner) and the Contractor/Assignee. Commencing on the date of acceptance of assignment by the Contractor/Assignee, all references in the Procurement Contract to "Buyer" shall mean the designated Contractor/Assignee.

2. The assignment of this Procurement Contract relieves the assignor from all further obligations and liabilities under this Procurement Contract. After assignment, Seller shall become a subcontractor or supplier to the Contractor/Assignee and, except as noted in this Document, all rights, duties, and obligations of Buyer under the Procurement Contract become the rights, duties, and obligations of the Contractor/Assignee.
3. After assignment:
 - a. The Procurement Drawings and Procurement Specifications, and any modifying Addenda will become "Contract Documents" under the construction contract.
 - b. If the Procurement Drawings or Procurement Specifications, as "Contract Documents" under the construction contract, are duly modified under such construction contract, then Seller and Contractor/Assignee shall enter into a corresponding Change Order under the applicable provisions of this Procurement Contract.
 - c. The Procurement Drawings and Procurement Specifications may not be modified by Seller or Contractor/Assignee, singly or in tandem, except as such Procurement Drawings or Procurement Specifications, as "Contract Documents" under the construction contract, have been duly modified under such construction contract.
 - d. All performance warranties, guarantees, and indemnifications required by the Procurement Contract will continue to run for the benefit of assignor (Project Owner) and, in addition, for the benefit of the Contractor/Assignee. However, if assignor (Project Owner) and Contractor/Assignee make the same warranty or guarantee claim, then Seller shall only be liable once for such claim. Other than its remedies under such warranties, guarantees, and indemnifications, assignor will not retain direct rights under this Procurement Contract, but will have rights and remedies as a party to the construction contract, whose scope of work will encompass the Procurement Drawings, Procurement Specifications, and modifying Addenda; provided, however, that any limitations on Seller's liability in this Procurement Contract will continue to bind the original Buyer (assignor) after assignment.
 - e. The Contractor/Assignee shall have all the rights of the Buyer under the Performance Bond.
 - f. Seller shall submit all Applications for Payment directly to Contractor/Assignee.
 - 1) Contractor/Assignee shall review each Application for Payment promptly, determine the amount that Contractor/Assignee approves for payment, and then include the amount approved in the next application for payment submitted to Project Owner (or Engineer) under the construction contract.
 - 2) Contractor/Assignee shall pay Seller within 30 days of receipt of payment from the Project Owner under the construction contract.
 - 3) After assignment Engineer will review, approve, or deny the content of Applications for Payment under the Procurement Contract only to the extent that Contractor/Assignee, as construction contractor, has

incorporated such content into payment applications that Engineer reviews under the construction contract.

- g. The Contractor/Assignee shall have all the rights of the Buyer under any pending Claim by Buyer.
- h. All Claims and supporting documentation will be submitted directly by the claimant party (either Buyer, Contractor/Assignee, or Seller), to the other party, without submittal to Engineer.
 - 1) The other party will render a response in writing within 30 days of receipt of the last submittal of claimant.
 - 2) If the other party does not render a written response to a Claim within 30 days after receipt of the last submittal of the claimant, the other party shall be deemed to have approved the Claim in its entirety.
 - 3) The other party's written response to a Claim, or the approval of the Claim in its entirety as a function of failure to respond within 30 days, will be final and binding upon Buyer and Seller 30 days after it is issued, unless within such 30 days of issuance either Buyer or Seller appeals the result by initiating the mediation of the Claim in accordance with the dispute resolution procedures.
 - 4) Any Claim by Seller that Contractor/Assignee may choose to submit, present, or forward to Project Owner must be submitted to Buyer within sufficient time for Contractor/Assignee to preserve its rights under the construction contract, notwithstanding any procedures or time limits in this Procurement Contract.
- i. Seller's recovery of additional cost, time, or both cost and time for any Claim attributable to the Project Owner will be limited to the proportionate recovery by Contractor/Assignee against Project Owner for such Claim. Seller will cooperate and assist Contractor/Assignee in pursuing any Claim by Contractor/Assignee against Project Owner on behalf of Seller, including the timely preparation and delivery of supporting documentation.
- j. If the pursuit of any claim by Contractor/Assignee against Project Owner on Seller's behalf requires the expenditure by Contractor/Assignee of legal or consulting fees, or results in litigation, arbitration, or any dispute resolution procedures, Seller agrees to pay for a proportionate share of attorneys' fees, consultant fees, and litigation, arbitration, and other resolution costs incurred by Contractor/Assignee in pursuing the claim on behalf of Seller, based upon the amount claimed by Seller as compared to the total value of the claim pursued by the Contractor/Assignee.
- k. All rights, duties, and obligations of Engineer to Contractor/Assignee and Seller under this Procurement Contract will cease.
- l. Subject to the foregoing provisions, all references in the Procurement Contract to submitting items to Engineer, or to Engineer having tasks or obligations, will be read after such an assignment as requiring submittal to Contractor/Assignee, or as Contractor/Assignee having such tasks or obligations (which Contractor/Assignee may delegate when appropriate).
- m. If the Procurement Contract includes a Buyer's Contingency Allowance, upon assignment such allowance will be automatically reduced to the amount previously authorized by Buyer (Project Owner) and cease to be operational.

- C. No other assignment by a party hereto of any rights under or interests in the Procurement Contract will be binding on another party hereto without the written consent of the party sought to be bound. Specifically, but without limitation, Procurement Contract payments or other money that may become due, and Procurement Contract payments or other money that are due, may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by Laws and Regulations). Unless specifically stated to the contrary in any written consent to such an assignment, such an assignment will not release or discharge the assignor from any duty or responsibility under the Procurement Contract Documents.

ARTICLE 6 - PROCUREMENT CONTRACT DOCUMENTS

6.01 List of Procurement Contract Documents

- A. The Procurement Contract Documents consist of the following:
1. This Procurement Agreement.
 2. Document 00701 - General Conditions - Procurement.
 3. Document 00801 - Supplementary Conditions -Procurement.
 4. Procurement Specifications.
 5. Procurement Drawings (not attached but incorporated by reference).
 6. Addenda Numbers _____.
 7. Bonds:
 - a. Performance bond (together with power of attorney).
 8. Exhibits to this Procurement Agreement (enumerated as follows):
 - a. Seller's Proposal, solely as to the prices set forth.
 - b. Documentation submitted by Seller.
 9. The following which may be delivered or issued on or after the Effective Date of the Procurement Contract and are not attached hereto:
 - a. Change Orders;
 - b. Change Directives; and
 - c. Field Orders.
 - d. Exhibit A, Assignment of Contract, Consent to Assignment, and Acceptance of Assignment.
 - e. Exhibit B, Surety's Consent to Assignment.
- B. The documents listed under List of Procurement Contract Documents are attached to this Procurement Agreement (except as expressly noted otherwise above).
- C. There are no Procurement Contract Documents other than those listed above.
- D. The Procurement Contract Documents may only be amended or supplemented as provided in Paragraph 11.01 of Document 00701 - General Conditions - Procurement.

ARTICLE 7 - SELLER'S REPRESENTATIONS AND CERTIFICATIONS

7.01 Seller's Representations

- A. In order to induce Buyer to enter into this Procurement Agreement, Seller makes the following representations:
1. Seller has examined and carefully studied the Procurement Contract Documents.
 2. If required by the Instructions to Bidders to visit the Point of Destination and the site where the Goods are to be installed or Special Services will be provided, or if, in Seller's judgment, any observable local or site conditions may affect the delivery, cost, progress, or furnishing of the Goods and Special Services, then Seller has visited the Point of Destination and site where the Goods are to be installed or Special Services will be provided (as applicable) and become familiar with and is satisfied as to the observable local and site conditions that may affect delivery, cost, progress, and furnishing of the Goods and Special Services.
 3. Seller is familiar with and is satisfied as to all Laws and Regulations that may affect the cost, progress, and performance of Seller's obligations under the Procurement Contract.
 4. Seller has carefully studied, considered, and correlated the information known to Seller with respect to the effect of such information on the cost, progress, and performance of Seller's obligations under the Procurement Contract.
 5. Seller has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Seller has discovered in the Procurement Contract Documents, and the written resolution (if any) thereof by Engineer is acceptable to Seller.
 6. The Procurement Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of Seller's obligations under the Procurement Contract.
 7. Seller's entry into this Procurement Contract constitutes an incontrovertible representation by Seller that without exception all prices in the Procurement Agreement are premised upon furnishing the Goods and Special Services as required by the Procurement Contract Documents.

7.02 Seller's Certifications

- A. Seller certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Procurement Contract. For the purposes of this Document:
1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Procurement Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Procurement Contract to the detriment of Buyer, (b) to establish bid or contract prices at artificial non-competitive levels, or (c) to deprive Buyer of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Buyer, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Procurement Contract.

ARTICLE 8 - CONFIDENTIALITY

8.01 Confidential Information

- A. Confidential information is information in documents submitted by Seller that Seller clearly and prominently labels in writing to be a trade secret, proprietary, or confidential. Such documents, if any, will be maintained in a manner that endeavors to avoid disclosing confidential information to third parties, to the extent allowed by Laws and Regulations.
- B. Seller shall clearly and prominently mark confidential information with the word "CONFIDENTIAL" on each page or sheet or on the cover of bound documents. Place "CONFIDENTIAL" stamps or watermarks so that they do not obscure any of the required information on the document, either in the original or in a way that would obscure any of the required information in a photocopy of the document.

8.02 Disclosure of Confidential Information

- A. If Buyer is requested to disclose confidential information, or becomes legally compelled (by oral questions, interrogatories, requests for information or documents, subpoena, civil or criminal investigative demand, public information requests, or other requests under Laws and Regulations) to disclose confidential information, or is required by a regulatory body, governing agency, or controlling authority to disclose confidential information, or make any other disclosure that is prohibited or otherwise constrained by the Procurement Contract, Buyer will provide Seller with prompt notice so Seller may seek an appropriate protective order or other remedy. Seller will be solely responsible for submitting to the regulatory body, governing agency, or controlling authority any arguments, briefs, memoranda, motions, authorities, or other information in opposition to disclosure.
- B. Buyer's obligations with respect to confidential information are nullified by the following exceptions:
 1. Confidential information becomes a part of the public domain through publication or otherwise, through no fault of the Buyer;
 2. Buyer can demonstrate through suitable documentation that the confidential information was already in the Buyer's possession, and not previously marked as confidential, or was otherwise publicly available prior to the Effective Date of the Procurement Contract;
 3. The confidential information is subsequently and independently disclosed to the Buyer by a third party who has a lawful right to disclose such information;
 4. Buyer has a good faith belief that disclosure is required or justified; or
 5. Buyer is required to disclose the confidential information by court order or by applicable Laws and Regulations.

8.03 Waiver of Immunity

- A. Notwithstanding any other provision of the Procurement Contract, it is stipulated and agreed that by accepting confidential information, Buyer has not and does not waive its legal immunity (if any) from suit or liability.

ARTICLE 9 - MUTUAL WAIVER

9.01 Mutual Waiver of Consequential Damages

- A. Buyer and Seller waive against each other, and against the other's officers, directors, members, partners, employees, agents, consultants, and subcontractors, any and all claims for or entitlement to incidental, indirect, or consequential damages arising out of, resulting from, or related to the Procurement Contract. If Buyer (Project Owner) assigns this Procurement Contract to a construction contractor (Contractor/Assignee), then the terms of this Paragraph will be binding upon the Contractor/Assignee with respect to Seller and assignor. The terms of this mutual waiver do not apply to or limit any claim by either Buyer or Seller against the other based on any of the following: (a) contribution or indemnification, (b) liquidated damages, (c) costs, losses, or damages attributable to personal or bodily injury, sickness, disease, or death, or to injury to or destruction of the tangible property of others, (d) intentional or reckless wrongful conduct, or (e) rights conferred by any bond provided by Seller under this Procurement Contract.

IN WITNESS WHEREOF, Buyer and Seller have signed this Procurement Agreement.
Counterparts have been delivered to Buyer and Seller.

The Effective Date of the Procurement Contract is _____, 2025.

Buyer

Seller

(typed or printed name of organization)

(typed or printed name of organization)

By: _____
(individual's signature)

By: _____
(individual's signature)

Date: _____
(date signed)

Date: _____
(date signed)

Name: _____
(typed or printed)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

(If Seller is a corporation, a partnership, or a joint
venture, attach evidence of authority to sign.)

Attest: _____
(individual's signature)

Attest: _____
(individual's signature)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

Address for giving notices:

Address for giving notices:

Designated Representative:

Designated Representative:

Name: _____
(typed or printed)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

Address:

Address:

Phone: _____

Phone: _____

Email: _____

Email: _____

(If Buyer is a corporation, attach evidence of
authority to sign. If Buyer is a public body, attach
evidence of authority to sign and resolution or other
documents authorizing execution of this
Agreement.)

END OF DOCUMENT

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DOCUMENT 00614

PERFORMANCE BOND - PROCUREMENT

Seller Name: _____ Address <i>(principal place of business)</i> : _____	Surety Name: _____ Address <i>(principal place of business)</i> : _____
Buyer Name: Snyderville Basin Water Reclamation District Mailing address <i>(principal place of business)</i> : 2800 Homestead Rd. Park City, Utah, 84098	Procurement Contract Description <i>(name and location)</i> : East Canyon Water Reclamation Facility 2909 Sackett Rd. Park City, Utah, 84098 Procurement Contract Price: _____ Effective Date of Procurement Contract: _____
Bond Bond Amount: _____ Date of Bond: _____ <i>(Date of Bond cannot be earlier than Effective Date of Procurement Contract)</i> Modifications to this Bond form: ☐ None ☐ See modifications as specified in this Document	
Surety and Seller, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.	
Seller as Principal	Surety
_____ <i>(Full formal name of Seller)</i>	_____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature)(Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Seller, Surety, Buyer, or other party is considered plural where applicable.</i>	

1. The Seller and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Buyer for the performance of the Procurement Contract, which is incorporated herein by reference.
2. If the Seller performs the Procurement Contract, the Surety and the Seller shall have no obligation under this Bond, except when applicable to participate in a conference as provided in this Document.
3. If there is no Buyer Default under the Procurement Contract, the Surety's obligation under this Bond will arise after:
 - 3.1. The Buyer first provides notice to the Seller and the Surety that the Buyer is considering declaring a Seller Default. Such notice may indicate whether the Buyer is requesting a conference among the Buyer, Seller, and Surety to discuss the Seller's performance. If the Buyer does not request a conference, the Surety may, within 5 business days after receipt of the Buyer's notice, request such a conference. If the Surety timely requests a conference, the Buyer shall attend. Unless the Buyer agrees otherwise, any conference requested under this provision will be held within 10 business days of the Surety's receipt of the Buyer's notice. If the Buyer, the Seller, and the Surety agree, the Seller shall be allowed a reasonable time to perform the Procurement Contract, but such an agreement does not waive the Buyer's right, if any, subsequently to declare a Seller Default;
 - 3.2. The Buyer declares a Seller Default, terminates the Procurement Contract, and notifies the Surety; and
 - 3.3. The Buyer has agreed to pay the Balance of the Procurement Contract Price in accordance with the terms of the Procurement Contract to the Surety or to a seller selected to perform the Procurement Contract.
4. Failure on the part of the Buyer to comply with the notice requirement in Document does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Buyer has satisfied the conditions specified in this Document, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 5.1. Arrange for the Seller, with the consent of the Buyer, to perform and complete the Procurement Contract;
 - 5.2. Undertake to perform and complete the Procurement Contract itself, through its agents or independent contractors;
 - 5.3. Obtain bids or negotiated proposals from qualified sellers acceptable to the Buyer for a contract for performance and completion of the Procurement Contract, arrange for a contract to be prepared for execution by the Buyer and a seller selected with the Buyer's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Procurement Contract, and pay to the Buyer the amount of damages as specified in this Document in excess of the Balance of the Procurement Contract Price incurred by the Buyer as a result of the Seller Default; or

- 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new seller, and with reasonable promptness under the circumstances:
 - 5.4.1 After investigation, determine the amount for which Surety may be liable to the Buyer and, as soon as practicable after the amount is determined, make payment to the Buyer; or
 - 5.4.2 Deny liability in whole or in part and notify the Buyer, citing the reasons for denial.
6. If the Surety does not proceed as specified in this Document with reasonable promptness, the Surety shall be deemed to be in default on this Bond 7 days after receipt of an additional written notice from the Buyer to the Surety demanding that the Surety perform its obligations under this Bond, and the Buyer shall be entitled to enforce any remedy available to the Buyer. If the Surety proceeds as specified in this Document and the Buyer refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Buyer shall be entitled to enforce any remedy available to the Buyer.
7. If the Surety elects to act, then the responsibilities of the Surety to the Buyer will not be greater than those of the Seller under the Procurement Contract, and the responsibilities of the Buyer to the Surety will not be greater than those of the Buyer under the Procurement Contract. Subject to the commitment by the Buyer to pay the Balance of the Procurement Contract Price, the Surety is obligated, without duplication for:
 - 7.1. the responsibilities of the Seller for correction of defective or non-conforming Goods and Special Services, and completion of the Procurement Contract;
 - 7.2. additional legal, design professional, and delay costs resulting from the Seller's Default, and resulting from the actions or failure to act of the Surety; and
 - 7.3. liquidated damages, or if no liquidated damages are specified in the Procurement Contract, actual damages caused by delayed performance or non-performance of the Seller.
8. If the Surety elects to act, the Surety's liability is limited to the amount of this Bond.
9. The Surety shall not be liable to the Buyer or others for obligations of the Seller that are unrelated to the Procurement Contract, and the Balance of the Procurement Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Buyer or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Procurement Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction where the Point of Destination is located and must be instituted within 2 years after a declaration of Seller Default, or within 2 years after the Seller ceased working, or within 2 years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.
12. Notice to the Surety, the Buyer, or the Seller must be mailed or delivered to the address shown on the page on which their signature appears.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Point of Destination, any provision in this Bond conflicting with said

statutory or legal requirement will be deemed deleted from this Bond and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Definitions

- 14.1. Balance of the Procurement Contract Price—The total amount payable by the Buyer to the Seller under the Procurement Contract after all proper adjustments have been made including allowance for the Seller for any amounts received or to be received by the Buyer in settlement of insurance or other claims for damages to which the Seller is entitled, reduced by all valid and proper payments made to or on behalf of the Seller under the Procurement Contract.
- 14.2. Buyer Default—Failure of the Buyer, which has not been remedied or waived, to pay the Seller as required under the Procurement Contract or to perform and complete or comply with the other material terms of the Procurement Contract.
- 14.3. Goods and Special Services—The full scope of materials, equipment, other items, and services to be furnished by Seller, as defined in the Procurement Contract.
- 14.4. Point of Destination—The location where delivery of the Goods shall be made, as stated in the Procurement Contract.
- 14.5. Procurement Contract—The contractual agreement between the Buyer and Seller identified on the cover page, including all Procurement Contract Documents and changes made to the Procurement Contract.
- 14.6. Seller Default—Failure of the Seller, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Procurement Contract.
- 14.7. Procurement Contract Documents—All the documents that comprise the contractual agreement between the Buyer and Seller.

15. Modifications to this Bond are as follows:

END OF DOCUMENT

DOCUMENT 00646

BUYER'S ACKNOWLEDGEMENT OF RECEIPT OF GOODS - PROCUREMENT

Buyer:	_____	Buyer's Project No.:	_____
Engineer:	_____	Engineer's Project No.:	_____
Seller:	_____	Seller's Project No.:	_____
Project:	_____		
Contract Name:	_____		

This Buyer's Acknowledgment of Receipt of Goods (Acknowledgment) applies to:

☐ All Goods ☐ The following specified portions of the Goods: _____

Date of delivery of the Goods to the Point of Destination: _____

Date of Buyer's visual inspection of the Goods: _____

Date of this Acknowledgment: _____

Buyer acknowledges:

1. The Goods to which this notice applies have been delivered to the Point of Destination.
2. Buyer has visually inspected such Goods pursuant to Paragraph 9.02.B.1 of Document 00701 - General Conditions - Procurement.
3. Based on the visual inspection, such Goods appear to comply with the requirements of the Procurement Contract Documents as to quantities and condition, subject to any exceptions and limitations in this Acknowledgment.
4. Such Goods are deemed received for purposes of Paragraph 9.02.B.2 of Document 00701 - General Conditions - Procurement.
5. Seller may submit its Application for Payment for the delivered Goods, subject to the terms of the Procurement Agreement.

Exceptions (if any) to this Acknowledgment: ☐ None ☐ As follows:

The responsibilities between Buyer and Seller for securing and storing the Goods, maintaining the Goods during storage, and for furnishing the Special Services, shall be as provided in the Procurement Contract.

The following documents are attached to and made a part of this Acknowledgement:

This Acknowledgment does not constitute an acceptance of any Goods not in conformance with the Procurement Contract Documents, nor is it a release of Seller's obligation to furnish all Goods and Special Services in accordance with the Procurement Contract.

	Buyer	Engineer, on behalf of Buyer
By (signature):	_____	_____
Name (Printed):	_____	_____
Title:	_____	_____
Date:	_____	_____

END OF DOCUMENT

DOCUMENT 00647

**BUYER'S NOTICE REGARDING CONFORMITY OF GOODS AND SPECIAL SERVICES -
PROCUREMENT**

Buyer:	_____	Buyer's Project No.:	_____
Engineer:	_____	Engineer's Project No.:	_____
Seller:	_____	Seller's Project No.:	_____
Project:	_____		
Contract Name:	_____		
Notice Date:	_____	Effective Date of the Procurement Contract:	_____

Buyer hereby gives notice to Seller that, to the best of Buyer's knowledge, information, and belief, the Goods and Special Services:

- ☐ Are in conformance with the Procurement Contract Documents. Upon Seller's submittal of its final Application for Payment in accordance with the Procurement Contract Documents, Seller will be eligible for final payment, except as expressly indicated in the Procurement Contract.
- ☐ Are nonconforming with the Procurement Contract Documents for the following reason(s):
 - 1. _____

Seller's Special Services were completed on: _____

Buyer has consulted with and received Engineer's recommendation on conformity of the Goods and Special Services.

This Buyer's Notice Regarding Conformity of Goods and Special Services (Notice) is made expressly subject to the following terms and conditions to which all who receive and rely on said Notice agree:

1. This Notice is expressly subject to the terms and conditions set forth in the Procurement Contract.
2. This Notice is not a guarantee or warranty of Seller's performance under the Procurement Contract, an acceptance of Goods and Special Services that are not in accordance with the related Procurement Contract Documents, including but not limited to nonconforming Goods and Special Services discovered after final inspection, nor an assumption of responsibility for any failure of Seller to furnish the Goods and Special Services thereunder in accordance with the Procurement Contract, or to otherwise comply with the Procurement Contract Documents or the terms of any special guarantees specified.
3. This Notice does not relieve Seller of any surviving obligations under the Procurement Contract and is subject to Buyer's reservations of rights with respect to completion and final payment.

Buyer

By
(signature): _____ Name (Printed): _____
Date: _____ Title: _____

END OF DOCUMENT

DOCUMENT 00701

GENERAL CONDITIONS – PROCUREMENT

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ARTICLE 1 - DEFINITIONS

1.01 Defined Terms

- A. Wherever used in these Procurement General Conditions or in the other Procurement Documents and printed with initial capital letters, the following terms have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Procurement Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. Addenda--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the bidding documents or the Procurement Documents.
 2. Application for Payment—The document prepared by Seller, in a form acceptable to Buyer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Procurement Contract Documents.
 3. Bid--An offer or proposal of a prospective Seller submitted on the prescribed form setting forth the price(s) for furnishing the Goods and Services.
 4. Bidder—An individual or entity that, as a prospective Seller, submits a Bid to Buyer.
 5. Buyer—The individual or entity purchasing the Goods and Special Services.
 6. Change Directive—A written directive from Buyer to Seller issued on or after the Effective Date of the Procurement Contract, ordering an addition, deletion, or revision in the Goods and Special Services.
 7. Change Order--A document which is signed by Seller and Buyer and authorizes an addition, deletion, or revision to the Procurement Contract Documents or an adjustment in the Procurement Contract Price or the Procurement Contract Times, issued on or after the Effective Date of the Procurement Contract. Change Orders may be the result of mutual agreement by Buyer and Seller, or of resolution of a Claim.
 8. Claim—A demand or assertion by Buyer or Seller seeking an adjustment of Procurement Contract Price or Procurement Contract Times, or both, or other relief with respect to the terms of the Procurement Contract. A demand for money or services by a third party is not a Claim.
 9. Contractor/Assignee—A construction contractor with which Project Owner enters into a construction contract, and to which Project Owner, as initial Buyer, assigns this Procurement Contract.
 10. Effective Date of the Procurement Contract—The date indicated in the Procurement Agreement on which the Procurement Contract becomes effective.
 11. Electronic Document—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
 12. Electronic Means—Electronic mail (e-mail), upload/download from a secure Project website, or other communications methods that allow: the transmission or communication of Electronic Documents; the documentation of transmissions, including sending and receipt; printing of the transmitted Electronic Document by

the recipient; the storage and archiving of the Electronic Document by sender and recipient; and the use by recipient of the Electronic Document for purposes permitted by this Procurement Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

13. Engineer-- The individual or entity designated as such in the Procurement Agreement.
14. Field Order-- A written order issued by Engineer which requires minor changes in the Goods or Special Services, but which does not involve a change in the Procurement Contract Price or Procurement Contract Times.
15. Goods--The tangible and movable personal property that is described in the Procurement Contract Documents, regardless of whether the property is to be later attached to realty.
16. Goods and Special Services—The full scope of materials, equipment, other items, and services to be furnished by Seller, including Goods, as defined herein, and Special Services, if any, as defined herein. This term refers to both the Goods and the Special Services, or to either the Goods or the Special Services, and to any portion of the Goods or the Special Services, as the context requires.
17. Laws and Regulations; Laws or Regulations—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
18. Milestone--A principal event specified in the Procurement Contract that Seller must attain by the date or within the number of days indicated, including but not limited to the delivery of the Goods and the furnishing of Special Services.
19. Notice of Award-- The written notice, by Buyer to a Bidder, of Buyer's acceptance of the Bid.
20. Point of Destination-- The specific address of the location where delivery of the Goods will be made, as stated in the Procurement Agreement.
21. Procurement Agreement--The written instrument, executed by Buyer and Seller, that sets forth the Procurement Contract Price and Procurement Contract Times, identifies the parties and the Engineer, and designates the specific items that are Procurement Contract Documents.
22. Procurement Bidding Documents-- The Procurement Bidding Requirements and the proposed Procurement Contract Documents (including all Addenda).
23. Procurement Bidding Requirements—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and Bid Form with any supplements.
24. Procurement Contract—The entire and integrated written agreement between Buyer and Seller concerning the Goods and Special Services.
25. Procurement Contract Documents—Those items so designated in the Procurement Agreement, and which together comprise the Procurement Contract. Shop Drawings and other Seller submittals are not Procurement Contract Documents, even if accepted, reviewed, or approved by Engineer or Buyer.
26. Procurement Contract Price—The money that Buyer has agreed to pay Seller for furnishing the Goods and Special Services in accordance with the Procurement Contract Documents.
27. Procurement Contract Times—The times stated in the Procurement Agreement by which the Goods must be delivered, Special Services must be furnished, and other Milestones must be attained.

28. Procurement Drawings—That part of the Procurement Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Goods and Special Services to be furnished by Seller. Shop Drawings and other Seller submittals are not Procurement Drawings as so defined.
29. Procurement Specifications—That part of the Procurement Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the furnishing of the Goods and Special Services, and certain administrative requirements and procedural matters applicable thereto.
30. Project--The total undertaking to be accomplished for Project Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Goods and Special Services are a part.
31. Project Owner—The entity that has retained (or will retain) engineers, contractors, and others for the planning, study, design, construction, testing, commissioning, and start-up of facilities and improvements. As of the Effective Date of the Procurement Contract, the Project Owner is the Buyer.
32. Samples—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Goods and Special Services and which establish the standards by which such portion of the Goods and Special Services will be judged.
33. Schedule of Submittals—A schedule, prepared and maintained by Seller, of required Submittals and the time requirements for Engineer's review of the Submittals.
34. Seller—The individual or entity furnishing the Goods and Special Services.
35. Shop Drawings--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Seller and submitted by Seller to illustrate some portion of the Goods and Special Services. Shop Drawings, whether approved or not, are not Procurement Drawings and are not Procurement Contract Documents.
36. Special Services—Services to be performed by Seller (or its agents or subcontractors) in association with the Goods to be furnished by Seller, as required by the Procurement Contract Documents.
37. Submittal—A written or graphic document, prepared by or for Seller, which the Procurement Contract Documents require Seller to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or site quality-control testing and inspections; warranties and certifications; suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; record documents; and other such documents required by the Procurement Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Procurement Contract Documents. Change proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
38. Successful Bidder—The Bidder whose Bid the Buyer accepts, and to which Buyer makes an award of the Procurement Contract.
39. Supplementary Conditions--The part of the Procurement Documents that amends or supplements these General Conditions.

40. Unit Price Goods and Special Services—Goods and Special Services to be paid for on the basis of unit prices (if any).

1.02 Terminology

- A. The words and terms are not defined but have the indicated meanings when used in the Bidding Requirements or Procurement Contract Documents.
- B. Intent of Certain Terms or Adjectives
 - 1. The Procurement Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Goods and Special Services. It is intended that such exercise of professional judgment, action, or determination will be commercially reasonable and will be solely to evaluate, in general, the Goods and Special Services for compliance with the requirements of and information in the Procurement Contract Documents and conformance with the design concept of the completed Project as a functioning whole, as shown or indicated in the Procurement Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective will not be effective to assign to Engineer any duty or authority to supervise or direct the furnishing of Goods or Special Services or any duty or authority to undertake responsibility contrary to any other provision of the Procurement Contract Documents.
 - 2. The word “non-conforming” when modifying the words “Goods and Special Services,” “Goods,” or “Special Services,” refers to Goods and Special Services that are unsatisfactory, faulty, or deficient in that they:
 - a. do not conform to or comply with the requirements of the Procurement Contract Documents;
 - b. do not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Procurement Contract Documents; or
 - c. in the case of Special Services, have not been completed.
 - 3. The word “receipt” when referring to the Goods, means the physical taking and possession by the Buyer.
 - 4. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
 - 5. The word “furnish,” when used in connection with the Goods and Special Services means to supply and deliver said Goods to the Point of Destination (or some other specified location) and to perform said Special Services fully, all in accordance with the Procurement Contract Documents.
- C. Procurement Contract Price or Procurement Contract Times: References to a change in “Procurement Contract Price or Procurement Contract Times” or “Procurement Contract Times or Procurement Contract Price” or similar, indicate that such change applies to (1) Procurement Contract Price, (2) Procurement Contract Times, or (3) both Procurement Contract Price and Procurement Contract Times, as warranted, even if the term “or both” is not expressed.

- D. Unless stated otherwise in the Procurement Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Procurement Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds & Insurance Certificates

- A. When Seller delivers the executed counterparts of the Procurement Agreement to Buyer, the Seller also shall deliver to Buyer the performance bond and payment bond (if the Procurement Contract requires Seller to furnish such bonds).
- B. Evidence of Seller's Insurance: When Seller delivers the signed counterparts of the Procurement Agreement to Buyer, the Seller also shall deliver to Buyer, with copies to each additional insured (as identified in the Procurement Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Seller in accordance with bonds and insurance . Evidence of insurance to be obtained at a later date, such as insurance relating to transit or storage of the Goods, will be provided to Buyer at the time of such insurance is obtained.
- C. Evidence of Buyer's Insurance: After receipt of the signed counterparts of the Procurement Agreement and all required bonds and insurance documentation, Buyer shall promptly deliver to Seller, with copies to each additional insured (as identified in the Procurement Contract), certificates and other evidence of insurance (if any) required to be provided by Buyer.

2.02 Copies of Documents

- A. Buyer shall furnish to Seller four printed copies of the Procurement Contract (including one fully executed counterpart of the Procurement Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

2.03 Electronic Transmittals

- A. Except as otherwise stated elsewhere in the Procurement Contract, the Buyer, Seller, and Engineer may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Procurement Contract does not establish protocols for Electronic Means, then Buyer, Seller, and Engineer shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

2.04 Safety

- A. Buyer and Seller shall comply with all applicable Laws and Regulations relating to the safety of persons or property, and to the protection of persons or property from damage, injury, or loss.
- B. When Seller's personnel, or the personnel of any subcontractor to Seller, are present at the Point of Destination or any work area or site controlled by Buyer, the Seller shall be responsible for the compliance by such personnel with any applicable requirements of Buyer's safety programs that are made known to Seller.
- C. If Buyer or its representatives visit the Seller's manufacturing or storage facilities, for testing, inspection, or other purposes, Seller shall inform Buyer in advance of any safety preparations, standards, or programs with which Buyer and its representatives must comply.

ARTICLE 3 - PROCUREMENT CONTRACT DOCUMENTS

3.01 Intent

- A. The Procurement Documents are complementary; what is called for by one is as binding as if called for by all.
- B. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Procurement Contract Documents or from prevailing custom or trade usage as being required to produce or furnish the indicated Goods and Special Services will be provided, whether or not specifically called for, at no additional cost to Buyer.
- C. Unless otherwise stated in the Procurement Contract Documents, if there is a discrepancy between the electronic or digital versions of the Procurement Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version will govern.
- D. The Procurement Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Procurement Contract Documents.
- F. Any provision or part of the Procurement Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Buyer and Seller.

3.02 Reference Standards

- A. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws and Regulations, whether such reference be specific or by implication, means the standard, specification, manual, code, or Laws and Regulations in effect at the time of opening of Bids (or on the Effective Date of

the Procurement Agreement if there were no Bids), except as may be otherwise specifically stated in the Procurement Contract Documents.

- B. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a supplier, will be effective to change the duties or responsibilities of Buyer, Seller, or Engineer from those set forth in the part of the Procurement Contract Documents prepared by or for Engineer. No such provision or instruction will be effective to assign to Buyer or Engineer any duty or authority to supervise or direct the performance of Seller's obligations, or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Procurement Contract Documents prepared by or for Engineer.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies

1. Seller's Review of Procurement Contract Documents: If, before or during the performance of Seller's obligations, Seller discovers any conflict, error, ambiguity, or discrepancy within the Procurement Contract Documents, or between the Procurement Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any supplier to Seller, then Seller shall promptly report it to Engineer (or if the Procurement Contract is assigned, then directly to Contractor/Assignee) in writing. Seller shall not proceed with the Goods and Special Services affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer (or if the Procurement Contract is assigned, then by Contractor/Assignee) or by an amendment or supplement to the Procurement Contract Documents issued pursuant to Article 11.
2. Seller shall not be liable to Buyer or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Procurement Contract Documents unless Seller had actual knowledge thereof.

- B. Resolving Discrepancies: Except as may be otherwise specifically stated in the Procurement Contract Documents, the provisions of the Procurement Contract Documents will take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Procurement Contract Documents and:
 1. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Procurement Contract Documents); or
 2. the provisions of any Laws or Regulations applicable to the furnishing of the Goods and Special Services (unless such an interpretation of the provisions of the Procurement Contract Documents would result in violation of such Law or Regulation).

3.04 Requirements of the Procurement Drawings and Procurement Specifications

- A. During the performance of Seller's obligations and until final payment, Seller and Buyer shall submit to the Engineer all matters in question concerning the requirements of the Procurement Drawings and Procurement Specifications (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Goods and Special Services, as soon as possible

after such matters arise. Engineer will be the initial interpreter of the requirements of the Procurement Drawings and Procurement Specifications, and judge of the acceptability of the Goods and Special Services thereunder.

1. After assignment (if any) Seller shall submit such matters directly to Contractor/Assignee for response or administration, and the Procurement Contract provisions in Paragraphs 3.04.B and C will not apply.
- B. Engineer will issue with reasonable promptness a written clarification, interpretation, or decision on the issue submitted, and if necessary, initiate an amendment or supplement to the Procurement Drawings or Procurement Specifications. Engineer's written clarification, interpretation, or decision will be consistent with the overall intent of the Procurement Contract Documents and will be final and binding on Seller and Buyer. If either Buyer or Seller believes that a written clarification or interpretation justifies an adjustment in the Procurement Contract Price or Procurement Contract Times, either may make a Claim for such adjustment.
- C. If a submitted matter in question concerns terms and conditions of the Procurement Contract Documents that do not involve (1) the performance or acceptability of the Goods and Services, (2) the design (as set forth in the Procurement Drawings, Procurement Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Buyer and Seller that Engineer is unable to provide a decision or interpretation.

3.05 Reuse of Documents

- A. Seller and its subcontractors and suppliers shall not:
 1. have or acquire any title to or ownership rights in any of the Procurement Drawings, Procurement Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Procurement Drawings, Procurement Specifications, other documents, or copies thereof, on extensions of the Project or any other project, without written consent of Buyer and Engineer and specific written verification or adaptation by Engineer; or
 2. have or acquire any title or ownership rights in any other Procurement Contract Documents, reuse any such Procurement Contract Documents for any purpose without Buyer's express written consent, or violate any copyrights pertaining to such Procurement Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Procurement Contract. Nothing herein precludes Seller from retaining copies of the Procurement Contract Documents for record purposes.

ARTICLE 4 - COMMENCEMENT AND SCHEDULE

4.01 Commencement of Procurement Contract Times

- A. The Procurement Contract Times will commence to run on the Effective Date of the Procurement Contract.

4.02 Continuing Performance

- A. Seller shall adhere to the progress schedule established in accordance with Paragraph 2.04.A., as duly adjusted, and the Goods will be delivered, and the Special Services furnished within the Procurement Contract Times.
- B. Seller shall carry on furnishing of the Goods and Special Services and adhere to the progress schedule during all disputes or disagreements with Buyer. No furnishing of Goods and Special Services will be delayed or postponed pending resolution of any disputes or disagreements, except as expressly permitted herein, or as Buyer and Seller may otherwise agree in writing.

4.03 Adjustments to Progress Schedule

- A. The progress schedule may be adjusted from time to time as provided below.
 - 1. Seller shall submit to Buyer for acceptance proposed adjustments in the progress schedule that will not result in changing the Procurement Contract Times. Such adjustments will comply with any applicable provisions of the Procurement Specifications.
 - 2. Proposed adjustments in the progress schedule that will change the Procurement Contract Times must be submitted in accordance with the requirements of Article 11. Adjustments in Procurement Contract Times may only be made by a Change Order.

4.04 Delays

- A. If Buyer, Engineer, or anyone for whom Buyer is responsible, delays, disrupts, or interferes with Seller's performance or progress, then Seller shall be entitled to an equitable adjustment in Procurement Contract Price or Procurement Contract Times.
- B. Seller shall not be entitled to an adjustment in Procurement Contract Price or Procurement Contract Times for delay, disruption, or interference caused by or within the control of Seller or anyone for whom Seller is responsible.
- C. If Seller's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Buyer, Seller, and those for which they are responsible, then Seller shall be entitled to an equitable adjustment in Procurement Contract Times. Such an adjustment will be Seller's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Procurement Contract Times under this paragraph include but are not limited to the following:
 - 1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. abnormal weather conditions;
 - 3. inspection delays by governmental authorities, and custom delays;
 - 4. international shipping delays;
 - 5. acts or failures to act of third-party entities; and
 - 6. acts of war or terrorism.

- D. Adjustments of Procurement Contract Times or Procurement Contract Price—
General Provisions: Seller's entitlement to an adjustment of Procurement Contract Times or Procurement Contract Price is limited as follows:
1. Seller's entitlement to an adjustment of the Procurement Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of Seller's obligations, as of the time of the delay, disruption, or interference.
 2. Seller shall not be entitled to an adjustment in Procurement Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Seller. Such a concurrent delay by Seller does not preclude an adjustment of Procurement Contract Times to which Seller is otherwise entitled.
 3. Adjustments of Procurement Contract Times or Procurement Contract Price are subject to the provisions of Articles 11 and 12.
- E. Each Seller request seeking a delay-related increase in Procurement Contract Times or Procurement Contract Price must be supplemented by supporting data that sets forth in detail the following: (1) the circumstances that form the basis for the requested adjustment; (2) the date upon which each cause of delay, disruption, or interference began to affect Seller's progress; (3) the date upon which each cause of delay, disruption, or interference ceased to affect Seller's progress; (4) the number of days' increase in Procurement Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and (5) the impact on Procurement Contract Price. Seller shall also furnish such additional supporting documentation as Buyer or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion.

ARTICLE 5 - BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

- A. Seller shall furnish a performance bond and a payment bond, each in an amount at least equal to the Procurement Contract Price, as security for the faithful performance and payment of Seller's obligations under the Procurement Contract. These bonds must remain in effect until 1 year after the date when final payment becomes due or until completion of the correction period, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Procurement Contract.
- B. Seller shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Procurement Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Buyer prior to execution of the Procurement Contract, except as provided otherwise by Laws or Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the

Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Seller shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Seller is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Seller shall promptly notify Buyer and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements of this Procurement Contract.
- F. If Seller has failed to obtain a required bond, Buyer may exercise Buyer's termination rights.
- G. Upon request to Buyer from any subcontractor, supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of Seller's obligations, Buyer shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Seller from any subcontractor, supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of Seller's obligations, Seller shall provide a copy of the payment bond to such person or entity.

5.02 Insurance

- A. Seller shall provide insurance of the types and coverages and in the amounts stipulated in the Supplementary Conditions.
- B. Failure of Buyer to demand certificates of insurance or other evidence of Seller's full compliance with these insurance requirements or failure of Buyer to identify a deficiency in compliance from the evidence provided will not be construed as a waiver of Seller's obligation to maintain such insurance.
- C. Upon assignment of this Procurement Contract, Seller shall name the Contractor/Assignee as an additional insured and comply with the written request of Contractor/Assignee to provide evidence of insurance.
- D. Buyer does not represent that insurance coverage and limits established in this Procurement Contract necessarily will be adequate to protect Seller.
- E. The insurance and insurance limits required herein will not be deemed as a limitation on Seller's liability under the indemnities and other rights granted to Buyer in the Procurement Contract.

5.03 Surety or Insurance Companies

- A. All bonds and insurance required by the Procurement Contract Documents to be purchased and maintained by Buyer or Seller shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies must also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

ARTICLE 6 - LICENSES AND FEES

6.01 Intellectual Property and License Fees

- A. Except to the extent stated elsewhere in the Procurement Contract Documents, Seller is not transferring any patent rights, copyrights, or other intellectual property rights for the Goods delivered.
- B. To the extent Seller is manufacturing to Buyer's design, Buyer retains all patent rights, copyrights, and other intellectual property rights in such design.
- C. If an invention, design, process, product, or device is specified in the Procurement Contract Documents for incorporation in the Goods or for the performance of Special Services, and if, to the actual knowledge of Buyer or Engineer, its use is subject to patent rights, copyrights, or other intellectual property rights calling for the payment of a license fee or royalty to others, then the existence of such rights and payment obligations will be disclosed to Seller in the Procurement Contract Documents.
- D. Seller shall pay all license fees and royalties and assume all costs incident to the use or the furnishing of the Goods, unless specified otherwise by the Procurement Contract Documents.

6.02 Seller's Infringement

- A. Subject to Paragraph 6.01, to the fullest extent permitted by Laws and Regulations, Seller shall indemnify and hold harmless Buyer, Engineer, and their officers, directors, members, partners, employees, agents, consultants, contractors, and subcontractors, from and against all claims, costs, losses, damages, and judgments (including but not limited to all reasonable fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement or alleged infringement of any patent, copyright, or other intellectual property right by any of the Goods as delivered or Special Services as performed.
- B. Buyer will promptly notify Seller in writing of any claim, suit, or threat of suit by a third party for any infringement or alleged infringement of any patent, copyright, or other intellectual property right with respect to the Goods as delivered or Special Services as performed.

- C. Seller shall promptly defend or settle the claim or suit. Seller shall have control over such claim or suit, bear all expenses, and satisfy any adverse judgment.
 - 1. If Seller fails to defend such suit or claim after written notice by Buyer, Seller will be bound, in any subsequent suit or claim against Seller by Buyer, by any factual determination in the prior suit or claim.
 - 2. If Buyer fails to provide Seller the opportunity to defend such suit or claim, Buyer shall be barred from any remedy against Seller for such suit or claim.
- D. If a determination is made that Seller has infringed upon the intellectual property rights of another, Seller may, at Seller's own expense, obtain the necessary licenses for Buyer's benefit, or replace the Goods and provide related design and construction, consistent with the requirements of the Procurement Contract Documents, to avoid the infringement.

6.03 Buyer's Infringement

- A. Subject to Paragraph 6.01, and to the fullest extent permitted by Laws and Regulations, Buyer shall be responsible to Seller for any infringement or alleged infringement of any patent, copyright, or other intellectual property right caused by Seller's compliance with the Procurement Drawings or Procurement Specifications, and will reimburse Seller for any license fee or royalties paid by Seller to others if such payment resulted from any invention, design, process, product, or device specified to be furnished or performed in the Procurement Drawings or Procurement Specifications, but not identified as being subject to payment of such license fee or royalty.
- B. Seller will promptly notify Buyer in writing of any claim, suit, or threat of suit by a third party for intellectual property infringement arising from Seller's compliance with the Procurement Drawings or Procurement Specifications.
- C. Buyer shall defend or settle the claim or suit. Buyer shall have control over such claim or suit, bear all expenses, and satisfy any adverse judgment.
 - 1. If Buyer fails to defend such suit or claim after written notice by Seller, Buyer will be bound, in any subsequent suit or claim against Buyer by Seller, by any factual determination in the prior suit or claim.
 - 2. If Seller fails to provide Buyer the opportunity to defend such suit or claim, Seller shall be barred from any remedy against Buyer for such suit or claim.

ARTICLE 7 - SELLER'S RESPONSIBILITIES

7.01 Performance of Obligations

- A. Seller shall be solely responsible for the means, methods, techniques, sequences, and procedures necessary to perform its obligations in accordance with the Procurement Contract Documents.
- B. Seller shall supervise, inspect, and direct the furnishing of the Goods and Special Services competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform its obligations in accordance with the Procurement Contract Documents.

- C. Seller shall coordinate the provision of Special Services to avoid or limit interference or disruption of other activities at the location where the Special Services are to occur, including but not limited to ongoing facility operations and construction activities.

7.02 Labor, Materials and Equipment

- A. Seller shall provide competent, qualified and trained personnel in all aspects of its performance of the Procurement Contract.
- B. All Goods, and all equipment and material incorporated into the Goods, must be as specified, and unless specified otherwise in the Procurement Contract Documents, must be:
 - 1. new, and of good quality;
 - 2. protected, assembled, connected, cleaned, and conditioned in accordance with the original manufacturer's instructions; and
 - 3. shop-assembled to the greatest extent practicable.

7.03 Laws and Regulations

- A. Seller shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of its obligations in accordance with the Procurement Contract Documents. Except where otherwise expressly required by such Laws and Regulations, neither Buyer nor Engineer shall be responsible for monitoring Seller's compliance with any Laws or Regulations.
- B. If Seller furnishes Goods and Special Services knowing or having reason to know that such furnishing is contrary to Laws or Regulations, Seller shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such performance. It will not be Seller's responsibility to make certain that the Procurement Specifications and Procurement Drawings are in accordance with Laws and Regulations, but this provision will not relieve Seller of Seller's obligations.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Procurement Contract if there were no Bids) that have a direct effect on the cost or time of Seller's performance will be the subject of an adjustment in Procurement Contract Price or Procurement Contract Times. If Buyer and Seller are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made.

7.04 "Or Equals"

- A. Whenever an item of material or equipment to be incorporated into the Goods is specified or described in the Procurement Contract Documents by using the names of one or more proprietary items or specific suppliers or manufacturers, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, other items of

material or equipment or material or equipment of other suppliers or manufacturers may be submitted to Buyer for Engineer's review.

1. If in Engineer's sole discretion, such an item of material or equipment proposed by Seller is functionally equal to that named and sufficiently similar so that no change in related work will be required, it may be considered by Engineer as an "or equal" item.
 2. For the purposes of this paragraph, a proposed item of material or equipment may be considered functionally equal to an item so named only if in the exercise of reasonable judgment, Engineer determines that: 1) it is at least equal in quality, durability, appearance, strength, and design characteristics; 2) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole; 3) it has an acceptable record of performance and availability of responsive service; and (4) Seller certifies that if approved: a) there will be no increase in any cost, including capital, installation or operating costs, to Buyer; and b) the proposed item will conform substantially to the detailed requirements of the item named in the Procurement Contract Documents.
- B. Engineer's Evaluation: Engineer will be allowed a reasonable time within which to evaluate each proposal or Submittal made pursuant to Paragraph 7.04.A. Engineer will be the sole judge of whether to accept or reject such a proposal or Submittal. No "or equal" will be ordered, manufactured or utilized until Engineer's review is complete, which will be evidenced by an approved Shop Drawing. Engineer will advise Buyer and Seller in writing of any negative determination. Notwithstanding Engineer's approval of an "or-equal" item, Seller shall remain obligated to comply with the requirements of the Procurement Contract Documents.
- C. Special Guarantee: Buyer may require Seller to furnish at Seller's expense a special performance guarantee or other surety with respect to any such proposed "or-equal."
- D. Data: Seller shall provide all data in support of any such proposed "or equal" at Seller's expense.

7.05 Taxes

- A. Seller shall pay all taxes and duties arising out of the sale of the Goods and the performance of Special Services. All taxes and duties are included in the Procurement Contract Price, except as noted in the Supplementary Conditions.

7.06 Submittals

- A. Shop Drawing and Sample Requirements
1. Before submitting a Shop Drawing or Sample, Seller shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Procurement Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal; and

- 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of Seller's obligations.
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
 2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Seller has satisfied its obligations under the Procurement Contract Documents with respect to Seller's review of that Submittal, and that Seller approves the Submittal.
 3. With each Shop Drawing or Sample, Seller shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Procurement Contract Documents. This notice will be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. Submittal Procedures for Shop Drawings and Samples: Seller shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
 1. Shop Drawings
 - a. Seller shall submit the number of copies required in the Procurement Specifications.
 - b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Seller proposes to provide, and to enable Engineer to review the information for the limited purposes required.
 2. Samples
 - a. Seller shall submit the number of Samples required in the Procurement Specifications.
 - b. Seller shall clearly identify each Sample as to material, supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required.
 3. Where a Shop Drawing or Sample is required by the Procurement Contract Documents or the Schedule of Submittals, any related work performed by Seller prior to Engineer's review and approval of the pertinent Submittal will be at the sole expense and responsibility of Seller.
- C. Engineer's Review of Shop Drawings and Samples
 1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Goods, comply with the requirements of the Procurement Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Procurement Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, manufacturing, fabrication, installation, or shipping, or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Seller from responsibility for any variation from the requirements of the Procurement Contract Documents unless Seller has complied with the requirements of Paragraph 7.06.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Procurement Contract Documents in a Field Order or other appropriate Procurement Contract modification.
5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Seller from responsibility for complying with the requirements.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Procurement Contract Documents, will not, under any circumstances, change the Procurement Contract Times or Procurement Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing or Sample will result in such item becoming a Procurement Contract Document.
8. Seller shall furnish Goods that comply with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.06.C.4.

D. Resubmittal Procedures for Shop Drawings and Samples

1. Seller shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Seller shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
1. Seller shall furnish required Shop Drawing and Sample Submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Seller shall be responsible for Engineer's charges to Buyer for such time. Buyer may impose a set-off against payments due Seller to secure reimbursement for such charges.
2. If Seller requests a change of a previously approved Shop Drawing or Sample, Seller shall be responsible for Engineer's charges to Buyer for its review time, and Buyer may impose a set-off against payments due Seller to secure reimbursement for such charges, unless the need for such change is beyond the control of Seller.

E. Submittals Other than Shop Drawings and Samples

1. The following provisions apply to all Submittals other than Shop Drawings and Samples:
 - a. Seller shall submit all such Submittals to the Engineer in accordance with the schedule of Submittals and pursuant to the applicable terms of the Procurement Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the schedule of Submittals will be deemed accepted.

- c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Procurement Contract Documents as to general form and content of the Submittal.
 - d. If any such Submittal is not accepted, Seller shall confer with Engineer regarding the reason for the non-acceptance and resubmit an acceptable document.
- 2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.04 and 2.05.

7.07 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, Seller shall indemnify and hold harmless Buyer, Engineer, Project Owner, and any assignee of Buyer, including Contractor/Assignee, and their officers, directors, members, partners, employees, agents, consultants, contractors, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of Seller's obligations under the Procurement Contract, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Goods themselves), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Seller, or any individual or entity directly or indirectly employed by Seller or anyone for whose acts Seller may be liable.
- B. In any and all claims against Buyer, Engineer, Project Owner, or any assignee of Buyer, including Contractor/Assignee, or their officers, directors, members, partners, employees, agents, consultants, contractors, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Seller, any subcontractor, any supplier, or any individual or entity directly or indirectly employed by any of them to furnish any of the Goods and Special Services, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.07.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Seller or any such subcontractor, supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.08 Concerning Subcontractors and Suppliers

- A. Seller may retain subcontractors and suppliers for the performance of parts of the furnishing of the Goods and Special Services. The Seller's retention of a subcontractor or supplier will not relieve Seller's obligation to Buyer to perform and complete the furnishing the Goods and Special Services in accordance with the Procurement Contract Documents.

ARTICLE 8 - SHIPPING AND DELIVERY

8.01 Shipping

- A. Seller shall select the carrier and bear all costs of packaging, transportation, insurance, special handling, and all other costs associated with shipment and delivery.

8.02 Delivery

- A. Seller shall deliver the Goods free on board (FOB) to the Point of Destination, freight prepaid, in accordance with the Procurement Contract Times set forth in the Procurement Agreement, or other date agreed to by Buyer and Seller.
- B. At least 10 days before shipment, Seller shall provide written notice to Buyer of the manner of shipment and the anticipated delivery date. The notice must also include any instructions concerning special equipment or services required at the Point of Destination to unload and care for the Goods. Seller shall also require the carrier to give Buyer at least 24 hours' notice by telephone prior to the anticipated time of delivery.
- C. Buyer will be responsible and bear all costs for unloading the Goods from carrier.
- D. Buyer will assure that adequate facilities are available to receive delivery of the Goods at the time established for delivery, or on another date agreed to by Buyer and Seller.
- E. No partial deliveries will be allowed, unless permitted or required by the Procurement Contract Documents or agreed to in writing by Buyer.
- F. Provisions governing inspection on delivery are set forth in Paragraph 9.02.

8.03 Risk of Loss

- A. Risk of loss and insurable interests transfer from Seller to Buyer upon Buyer's receipt of the Goods.
- B. Notwithstanding the provisions of Paragraph 8.03.A, if Buyer rejects the Goods as non-conforming, the risk of loss on such Goods will remain with Seller until Seller corrects the non-conformity or Buyer accepts the Goods. If rejected Goods remain at the Point of Destination pending modification and acceptance, then Seller shall be responsible for arranging adequate protection and maintenance of the Goods at Seller's expense.

ARTICLE 9 - BUYER'S RIGHTS

9.01 Seller's Warranties and Guarantees

- A. Seller warrants and guarantees to Buyer that the title to the Goods conveyed will be proper, its transfer rightful, and free from any security interest, lien, or other

encumbrance. Seller shall defend, indemnify, and hold Buyer harmless against any liens, claims, or demands contesting or affecting title of the Goods conveyed.

- B. Seller warrants and guarantees to Buyer that all Goods and Special Services will conform with the Procurement Contract Documents, and with the standards established by any Samples approved by Engineer. Engineer shall be entitled to rely on Seller's warranty and guarantee. If the Procurement Contract Documents do not otherwise specify the characteristics or the quality of the Goods, the Goods must comply with the requirements of Paragraph 7.02.B.
- C. Seller's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, improper modification, improper maintenance, or improper operation by persons other than Seller;
 - 2. excessive corrosion or chemical attack, unless corrosive or chemically damaging conditions were disclosed by Buyer in the Procurement Contract Documents and the Procurement Contract Documents required the Goods to withstand such conditions;
 - 3. use in a manner contrary to Seller's written instructions for installation, operation, and maintenance; or
 - 4. normal wear and tear under normal usage.
- D. Seller's obligation to furnish the Goods and Special Services in accordance with the Procurement Contract Documents will be absolute. None of the following will constitute an acceptance of Goods and Special Services that are non-conforming, or a release of Seller's obligation to furnish the Goods and Special Services in accordance with the Procurement Contract Documents:
 - 1. observations by Buyer, Engineer, or Project Owner;
 - 2. recommendation by Engineer or payment by Buyer of any progress or final payment;
 - 3. use of the Goods by Buyer or Project Owner;
 - 4. any acceptance by Buyer, Engineer, or Project Owner, or any failure to do so;
 - 5. the end of the correction period established in Paragraph 9.04;
 - 6. the issuance of a notice of acceptance;
 - 7. any inspection, test or approval by others; or
 - 8. any correction of non-conforming Goods and Special Services by Buyer or Project Owner.
- E. Buyer shall promptly notify Seller of any breach of Seller's warranties or guarantees.

9.02 Inspections and Testing

- A. General Provisions
 - 1. The Procurement Contract Documents specify required inspections and tests. Buyer shall have the right to perform, or cause to be performed, reasonable inspections and require reasonable tests of the Goods at Seller's facility, and at the Point of Destination. Seller shall allow Buyer a reasonable time to perform such inspections or tests.
 - 2. Seller shall reimburse Buyer for all expenses, except for travel, lodging, and subsistence expenses of Buyer's and Engineer's representatives, for inspections and tests specified in the Procurement Contract Documents. If as the result of any such specified testing the Goods are determined to be non-conforming, then

Seller shall also bear the travel, lodging, and subsistence expenses of Buyer's and Engineer's representatives, and all expenses of re-inspection or retesting.

3. Buyer shall bear all expenses of inspections and tests that are not specified in the Procurement Contract Documents (other than any re-inspection or retesting resulting from a determination of non-conformity, as set forth in Paragraph 9.03); provided, however, that if as the result of any such non-specified inspections or testing the Goods are determined to be non-conforming, then Seller shall bear all expenses of such inspections and testing, and of any necessary re-inspection and retesting.
4. Seller shall provide Buyer timely written notice of the readiness of the Goods for all inspections, tests, or approvals which the Procurement Contract Documents specify are to be observed by Buyer prior to shipment.
5. Buyer will give Seller timely notice of all specified tests, inspections, and approvals of the Goods which are to be conducted at the Point of Destination, and a representative of Seller will attend such tests, inspections, and approvals.
6. If, on the basis of inspections or testing, the Goods appear to be conforming, Buyer will give Seller prompt notice thereof. If on the basis of inspections or testing, the Goods appear to be non-conforming, Buyer will give Seller prompt notice thereof and will advise Seller of the remedy Buyer elects under the provisions of Paragraph 9.03.
7. Neither payments made by Buyer to Seller prior to any tests or inspections, nor any tests or inspections, will constitute acceptance of non-conforming Goods, or prejudice Buyer's rights under the Procurement Contract.

B. Visual Inspection on Delivery

1. Buyer will visually inspect the Goods upon delivery solely for purposes of identifying the Goods, general verification of quantities, and observation of apparent condition. Such visual inspection will not be construed as final or as receipt of any Goods and Special Services that, as a result of subsequent inspections and tests, are determined to be non-conforming.
2. If, on the basis of the visual inspection specified in this Document, the Goods appear to comply with the requirements of the Procurement Contract Documents as to quantities and condition, then within 10 days of delivery Buyer shall issue to Seller Buyer's acknowledgment of the receipt of Goods.

C. Final Inspection

1. After all of the Goods have been incorporated into the Project, tested in accordance with such testing requirements as are specified, and are functioning as required, and Seller has performed and completed all Special Services, Buyer will make a final inspection.
2. If, on the basis of the final inspection, Buyer determines that the Goods and Special Services are conforming, Buyer's notice thereof will constitute Buyer's acceptance of the Goods and Special Services, subject to any limitations stated in the notice.
3. If, on the basis of the final inspection, the Goods and Special Services are non-conforming, Buyer will identify the non-conformity in writing.

9.03 Non-Conforming Goods and Special Services

- A. If, on the basis of inspections and testing prior to delivery, the Goods and Special Services are found to be non-conforming, or if at any time after Buyer has**

acknowledged receipt of delivery and before the expiration of the correction period described in this Document, Buyer determines that the Goods and Special Services are non-conforming, then Seller shall promptly, without cost to Buyer and in response to written instructions from Buyer, either correct such non-conforming Goods and Special Services, or, if Goods are rejected by Buyer, remove and replace the non-conforming Goods with conforming Goods, including all work required for reinstallation.

B. Buyer's Rejection of Non-Conforming Goods

1. If Buyer elects to reject the Goods in whole or in part, Buyer's notice to Seller will describe in sufficient detail the non-conforming aspect of the Goods. If Goods have been delivered to Buyer, Seller shall promptly, and within the Procurement Contract Times, remove and replace the rejected Goods.
2. Seller shall bear all costs, losses and damages attributable to the removal, replacement, reinspection, and retesting of the non-conforming Goods.
3. Upon rejection of the Goods, Buyer retains a security interest in the Goods to the extent of any payments made and expenses incurred in their testing and inspection.

C. Buyer's Rejection of Non-Conforming Special Services

1. If at any time Buyer elects to reject the Special Services in whole or in part, Buyer's notice to Seller will describe in sufficient detail the non-conforming aspect of the Special Services.
2. Seller shall promptly provide conforming Special Services acceptable to Buyer.
3. If Seller fails to provide conforming Special Services, Buyer may remove the Special Services from the scope of the Procurement Contract, and equitably reduce the Procurement Contract Price.

D. Remedying Non-Conforming Goods: If Buyer elects to permit the Seller to modify the Goods to correct the non-conformance, then Seller shall promptly provide a schedule for such modifications and shall make the Goods conforming within a reasonable time.

E. Buyer's Acceptance of Non-Conforming Goods: Instead of requiring correction or removal and replacement of non-conforming Goods discovered either before or after final payment, Buyer may accept the non-conforming Goods. Seller shall bear all reasonable costs, losses, and damages attributable to Buyer's evaluation of and determination to accept such non-conforming Goods.

F. Seller Obligations: Seller shall pay all claims, costs, losses, and damages, including but not limited to all fees and charges for re-inspection, retesting and for any engineers, architects, attorneys and other professionals, and all court or arbitration or other dispute resolution costs arising out of or relating to the non-conforming Goods and Special Services. Seller's obligations will include the costs of the correction or removal and replacement of the non-conforming Goods and the replacement of property of Buyer and others destroyed by the correction or removal and replacement of the non-conforming Goods and obtaining conforming Special Services from others.

G. Buyer's Rejection of Conforming Goods: If Buyer asserts that Goods and Special Services are non-conforming and such Goods and Special Services are determined

to be conforming, or if Buyer rejects as non-conforming Goods and Special Services that are later determined to be conforming, then Seller shall be entitled to reimbursement from Buyer of costs incurred by Seller in inspecting, testing, correcting, removing, or replacing the conforming Goods and Special Services, including but not limited to fees and charges of engineers, architects, attorneys and other professionals, and all court or arbitration or other dispute resolution costs associated with the incorrect assertion of non-conformance or rejection of conforming Goods and Special Services.

9.04 Correction Period

- A. Seller's responsibility for correcting all non-conformities in the Goods and Special Services will extend for a period of 1 year after the acceptance of the Goods and Special Services.
- B. Where non-conforming Goods and Services (and damage to other work resulting therefrom) have been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Goods and Services will be extended for an additional period of 1 year after such correction or removal and replacement has been satisfactorily completed.
- C. Seller's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph may not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 10 - ENGINEER'S STATUS

10.01 Engineer's Role Defined

- A. Engineer will be Buyer's representative until assignment (if any) of the Procurement Contract.
- B. The duties and responsibilities and the limitations of authority of Engineer prior to assignment, if any, of the Procurement Contract, are set forth in the Procurement Contract Documents.
- C. Engineer's responsibilities, if any, after an assignment (if any) of the Procurement Contract, are set forth in the Procurement Agreement.

10.02 Duties and Responsibilities; Authority; Limitations

- A. Engineer will be the initial interpreter of the Procurement Contract Documents and judge of the acceptability of the Goods and Special Services, and will issue clarifications, interpretations, and decisions regarding such issues.
- B. Acting on behalf of Buyer under the provisions of Article 9, Engineer has the authority to disapprove or reject Goods and Special Services that Engineer believes to be non-conforming. Engineer also has the authority to require special inspection or testing of the Goods or Special Services, whether or not the Goods are fabricated or installed, or the Special Services are completed.

- C. Engineer may authorize minor deviations or variations in the Procurement Contract Documents by: 1) written approval of specific variations set forth in Shop Drawings when Seller has duly noted such variations, or 2) a Field Order.
- D. Engineer will review Claims, and render decisions on Claims.
- E. In rendering any interpretations, clarifications, reviews, decisions, disapprovals, acceptances, rejections, authorizations, and judgments, Engineer will not show partiality to Buyer or Seller. Engineer will not be liable to Buyer, Seller, or others in connection with any interpretations, clarifications, reviews, decisions, disapprovals, acceptances, rejections, authorizations, or judgments conducted or rendered by Engineer in good faith.
- F. Engineer will not supervise, direct, control, or have authority over or be responsible for the means, methods, techniques, sequences, or procedures used by Seller to perform its obligations under this Procurement Contract, or the safety precautions and programs incident thereto, or for any failure of Seller to comply with Laws and Regulations applicable to the performance of its obligations. Engineer will not be responsible for Seller's failure to furnish the Goods and Special Services in accordance with the Procurement Contract Documents.

ARTICLE 11 - CHANGES

11.01 Amending and Supplementing the Procurement Contract

- A. The Procurement Contract may be amended or supplemented by a Change Order, a Change Directive, or a Field Order.
- B. If an amendment or supplement to the Procurement Contract includes a change in the Procurement Contract Price or the Procurement Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Procurement Contract that involve (1) the conformance or acceptability of the Goods and Special Services, (2) the design (as set forth in the Procurement Drawings, Procurement Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Buyer and Seller may amend other terms and conditions of the Procurement Contract without the recommendation of the Engineer.

11.02 Change Orders

- A. Buyer and Seller shall execute appropriate Change Orders covering:
 - 1. Changes in Procurement Contract Price or Procurement Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Goods and Special Services furnished in accordance with a Change Directive;
 - 2. Changes in Procurement Contract Price resulting from a Buyer set-off, unless Seller has duly contested such set-off;
 - 3. Changes in the Goods and Special Services which are: (a) ordered by Buyer pursuant to Paragraph 11.05, (b) required because of Buyer's acceptance of non-conforming Goods and Services or (c) agreed to by the parties, subject to

the need for Engineer's recommendation if the change in the Goods and Special Services involves the design (as set forth in the Procurement Drawings, Procurement Specifications, or otherwise) or other engineering or technical matters; and

4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Change Directive; Article 12, Claims; and similar provisions.
- B. If Buyer or Seller refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 Change Directives

- A. A Change Directive will not change the Procurement Contract Price or the Procurement Contract Times but is evidence that the parties expect that the modification ordered or documented by a Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Change Directive's effect, if any, on the Procurement Contract Price and Procurement Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Procurement Contract Documents governing adjustments, expressly including Paragraph 11.08 regarding change of Procurement Contract Price.
- B. If Buyer has issued a Change Directive and Buyer or Seller believes that an adjustment in Procurement Contract Times or Procurement Contract Price is necessary, then such party shall submit a Claim seeking such an adjustment no later than 30 days after the completion of the Goods and Services set out in the Change Directive.

11.04 Field Orders

- A. Engineer may authorize minor changes in the Goods and Services if the changes do not involve an adjustment in the Procurement Contract Price or the Procurement Contract Times and are compatible with the design concept as indicated by the Procurement Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Buyer and also on Seller, which shall perform the Goods and Special Services involved promptly.
- B. If Seller believes that a Field Order justifies an adjustment in the Procurement Contract Price or Procurement Contract Times, then before proceeding with the Goods and Special Services at issue, Seller shall submit a Claim as provided in this Document.

11.05 Buyer-Authorized Changes in the Goods and Special Services

- A. Without invalidating the Procurement Contract and without notice to any surety, Buyer may, at any time or from time to time, order additions, deletions, or revisions in the Goods and Special Services. Changes involving the design (as set forth in the Procurement Drawings, Procurement Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.

- B. Such changes in the Goods and Special Services may be accomplished by a Change Order, if Buyer and Seller have agreed as to the effect, if any, of the changes on Procurement Contract Times or Procurement Contract Price; or by a Change Directive. Upon receipt of any such document, Seller shall promptly proceed with the Goods and Special Services involved; or, in the case of a deletion in the Goods and Special Services, promptly cease activities with respect to such deletion. Added or revised Goods and Special Services must be performed under the applicable conditions of the Procurement Contract Documents.

11.06 Buyer's Contingency Allowance

- A. The Buyer's Contingency Allowance, if any such is set forth in the Procurement Agreement, is for the sole use of Buyer to cover unanticipated costs.
- B. If Buyer exercises its unilateral right to use all or a portion of the Buyer's Contingency Allowance, Buyer will issue a written directive that documents the costs to which the allowance is applied, Seller's entitlement to compensation, and the consequent reduction in such allowance.
- C. Prior to final payment, the Total Price, as set forth in the Procurement Agreement, will be duly adjusted to account for any unused portion of the Buyer's Contingency Allowance.
- D. The Procurement Agreement addresses the impact on Buyer's Contingency Allowance of an assignment of the Procurement Contract.

11.07 Unauthorized Changes in the Goods and Special Services

- A. Seller shall not be entitled to an increase in the Procurement Contract Price or an extension of the Procurement Contract Times with respect to any work performed that is not required by the Procurement Contract Documents, as amended, modified, or supplemented.

11.08 Change of Procurement Contract Price

- A. The Procurement Contract Price may only be changed by a Change Order. Any Claim for an adjustment of Procurement Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Procurement Contract Price will be determined as follows:
 - 1. For changes in Unit Price Goods and Special Services, by application of the unit prices to the quantities of the items involved;
 - 2. To the extent the cost of the change is not covered by unit prices, then by a mutually agreed lump sum; or
 - 3. To the extent the cost of the change is not covered by unit prices and the parties do not reach mutual agreement to a lump sum, then on the basis of documented costs plus a Seller's fee for overhead and profit of 15 percent.

11.09 Change of Procurement Contract Times

- A. The Procurement Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Procurement Contract Times must comply with the provisions of Article 12.

11.10 Notification to Surety

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Goods and Special Services or the provisions of the Procurement Contract (including, but not limited to, Procurement Contract Price or Procurement Contract Times), the giving of any such notice will be Seller's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 - CLAIMS, DISPUTES, AND DISPUTE RESOLUTION

12.01 Claims

- A. The parties agree to endeavor to avoid or resolve Claims through direct, good faith discussions and negotiations whenever practicable. Such discussions and negotiations should at the outset address whether the parties mutually agree to suspend the Claims process, including the time periods established in this Document; if so, a written record of such mutual agreement should be made and jointly executed.
- B. Claimant shall deliver to Engineer and the other party to the Procurement Contract written notice of each Claim within 15 days after the occurrence of the event giving rise to the Claim.
- C. Claimant shall deliver written supporting data to Engineer and the other party within 45 days after such occurrence unless Engineer allows an additional period of time.
- D. Engineer will review each such Claim and render a decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.
- E. If Engineer does not render a formal written decision on a Claim within the time stated in this Document., Engineer shall be deemed to have issued a decision denying the Claim in its entirety 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.
- F. The rendering of a decision by Engineer pursuant to this Paragraph 12.01 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment) will be a condition precedent to any exercise by Buyer or Seller of such rights or remedies as either may otherwise have under the Procurement Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter. If the exercise of such rights or remedies will imminently be time-barred, a party may take actions necessary to

preserve such rights and remedies notwithstanding the lack of the condition precedent referred to in this paragraph.

- G. If a submitted matter in question concerns terms and conditions of the Procurement Contract Documents that do not involve (1) the performance or acceptability of Goods and Special Services under the Procurement Contract Documents, (2) the design (as set forth in the Procurement Drawings, Procurement Specifications, Addenda, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Buyer and Seller that Engineer is unable to provide a decision or interpretation. If Buyer and Seller are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in this Document.
- H. Engineer's written decision on such Claim or a decision denying the Claim in its entirety that is deemed to have been issued pursuant to Paragraph 12.01, will be final and binding upon Buyer and Seller 30 days after it is issued unless within 30 days of issuance Buyer or Seller appeals Engineer's decision by initiating the mediation of such Claim in accordance with the dispute resolution procedures set forth in this Document.
- I. If Article 12 has been amended to delete the mediation requirement, then Buyer or Seller may appeal Engineer's decision within 30 days of issuance by following the alternative dispute resolution process set forth in in this Document, as amended; or if no such alternative dispute resolution process has been set forth, Buyer or Seller may appeal Engineer's decision by 1) delivering to the other party within 30 days of the date of such decision a written notice of intent to submit the Claim to a court of competent jurisdiction, and 2) within 60 days after the date of such decision instituting a formal proceeding in a court of competent jurisdiction.
- J. No Claim for an adjustment in Procurement Contract Price or Procurement Contract Times will be valid if not submitted in accordance with Article 12.
- K. The effect on Claims of an assignment of the Procurement Contract by Buyer to a Contractor/Assignee is addressed in the Procurement Agreement.

12.02 Dispute Resolution Method

- A. Either Buyer or Seller may initiate the mediation of (1) any Claim decided in writing by Engineer under Paragraph 12.01 before such decision becomes final and binding, or (2) any other dispute between the parties, including but not limited to any dispute arising after final inspection of the Goods and Services. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Procurement Contract. The request for mediation must be submitted in writing to the American Arbitration Association and the other party to the Procurement Contract. Timely submission of the request will stay Engineer's decision from becoming final and binding.
- B. Mediation is a condition precedent to seeking final dispute resolution. Buyer and Seller shall participate in the mediation process in good faith. The process must be concluded within 60 days of filing of the request. The date of termination of the mediation will be determined by application of the mediation rules referenced above.

- C. If the mediation process does not result in resolution of the dispute, then Engineer's written Claim decision under Paragraph 12.01.D or a Claim denial pursuant to Paragraph 12.01.E becomes final and binding, or if applicable such other dispute is deemed resolved in favor of respondent, unless, within 30 days after termination of the mediation, Buyer or Seller:
1. elects in writing to invoke any final dispute resolution process provided for in the Supplementary Conditions, or
 2. agrees with the other party to submit the Claim or dispute to another final dispute resolution process, or
 3. if no final dispute resolution process has been provided for in the Supplementary Conditions, delivers to the other party written notice of the intent to submit the Claim or dispute to a court of competent jurisdiction, and within 60 days of the termination of the mediation institutes such formal proceeding.

ARTICLE 13 - PAYMENT

13.01 Applications for Progress Payments

- A. Seller shall submit to Buyer for Engineer's review Applications for Payment filled out and signed by Seller and accompanied by such supporting documentation as is required by the Procurement Contract Documents and also as Buyer or Engineer may reasonably require.
- B. The timing and amounts of progress payments will be as stipulated in the Procurement Agreement.
- C. Any Application for Payment that is based in whole or in part on the delivery of Goods must be accompanied by a bill of sale, invoice, or other documentation reasonably satisfactory to Buyer warranting that Buyer has rightfully received good title to the Goods from Seller and that, upon payment, the Goods will be free and clear of all liens. Such documentation will include releases and waivers from all parties with viable lien rights.
- D. Buyer shall notify Seller promptly of any deficiency in the required documentation.

13.02 Review of Applications for Progress Payments

- A. Review of Applications
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Buyer, or return the Application to Seller indicating in writing Engineer's reasons for refusing to recommend payment.
 2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Buyer, based on Engineer's observations of Seller's progress, as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Goods and Special Services or other obligations of Seller have progressed to the point indicated;

- b. the quality of the Goods and Special Services or other obligations of Seller are generally in accordance with the Procurement Contract Documents; and
 - c. the conditions precedent to Seller being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Seller's progress.
- 3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Goods and Special Services or other obligations of Seller have been exhaustive, extended to every aspect of the Goods and Special Services or other obligations of Seller in progress, or involved detailed inspections of the Goods and Special Services or other obligations of Seller beyond the responsibilities specifically assigned to Engineer in the Procurement Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Seller to be paid additionally by Buyer or entitle Buyer to withhold payment to Seller.
- 4. Neither Engineer's review of Seller's progress for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Seller's performance or furnishing of Goods and Special Services or other obligations of Seller; or
 - b. for the means, methods, techniques, sequences, or procedures of construction, manufacturing, fabrication, installation, or shipping, or the safety precautions and programs incident thereto; or
 - c. for Seller's failure to comply with Laws and Regulations applicable to Seller's performance under the Procurement Contract; or
 - d. to make any examination to ascertain how or for what purposes Seller has used the money paid for the Procurement Contract Price; or
 - e. to determine that title to any of the Goods or component parts have passed to Buyer free and clear of any Liens.
- 5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Buyer stated in Paragraph 13.02.A.2.
- 6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Buyer from loss because:
 - a. the Goods and Services are non-conforming, requiring correction or replacement;
 - b. the Procurement Contract Price has been reduced by Change Orders;
 - c. Buyer has been required to correct non-conforming Goods and Special Services in accordance with Paragraph 9.03.C, or has accepted non-conforming Goods and Special Services pursuant to Paragraph 9.03.E; or
 - d. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Seller and therefore justify termination for cause under the Procurement Contract Documents.

13.03 Basis and Amount of Progress Payments

- A. The basis and amounts of the progress payments will be as provided in the Procurement Agreement, subject to the provisions of this Article 13 regarding reductions in payment.

13.04 Suspension of or Reduction in Payment

- A. Buyer may temporarily cease making progress payments, or reduce the amount of a progress payment, even though recommended for payment by Engineer, under the following circumstances:
1. Buyer has reasonable grounds to conclude that Seller will not furnish the Goods or the Special Services in accordance with the Procurement Contract Documents, and
 2. Buyer has requested in writing assurances from Seller that the Goods and Special Services will be delivered or furnished in accordance with the Procurement Contract Documents, and Seller has failed to provide adequate assurances within ten days of Buyer's written request.
 3. In addition to any reductions in payment (set-offs) recommended by Engineer, Buyer is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Buyer based on Seller's conduct in the performance or furnishing of the Goods and Special Services, or has incurred costs, losses, or damages resulting from Seller's conduct in the performance or furnishing of the Goods and Special Services, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Seller has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Point of Destination or the worksite;
 - c. Seller has failed to provide and maintain required bonds or insurance;
 - d. Buyer has incurred extra charges or engineering costs related to Submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - e. the Goods and Special Services are non-conforming, requiring correction or replacement;
 - f. Buyer has been required to correct non-conforming Goods and Special Services, in accordance with Paragraph 9.03.C, or has accepted non-conforming Goods and Special Services pursuant to Paragraph 9.03.E;
 - g. the Procurement Contract Price has been reduced by Change Orders;
 - h. an event that would constitute a default by Seller and therefore justify a termination for cause has occurred;
 - i. liquidated or other damages have accrued as a result of Seller's failure to achieve Milestones, Substantial Completion, or final completion of the Goods and Special Services; or
 - j. liens have been filed in connection with the Procurement Contract, except where Seller has delivered a specific bond satisfactory to Buyer to secure the satisfaction and discharge of such liens.
- B. If Buyer refuses to make payment of the full amount recommended by Engineer, Buyer will provide Seller and Engineer immediate written notice stating the reason for such action and promptly pay Seller any amount remaining after deduction of the amount withheld. Buyer shall promptly pay Seller the amount withheld when Seller corrects the reason for such action to Buyer's satisfaction.

13.05 Final Payment

- A. After Seller has corrected all non-conformities to the reasonable satisfaction of Buyer and Engineer and furnished all Special Services, Seller may submit its final Application for Payment following the procedures for progress payments.
- B. The final Application for Payment will be accompanied by all documentation called for in the Procurement Contract Documents (including but not limited to all final operations and maintenance manuals, and any special warranties), a list of all unsettled Claims, and the written consent of surety to the making of final payment.
- C. If, on the basis of final inspection and the review of the final Application for Payment and accompanying documentation, Engineer is reasonably satisfied that Seller has furnished the Goods and Special Services in accordance with the Procurement Contract Documents, and that Seller has fulfilled all other obligations under the Procurement Contract Documents, then Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment subject to the provisions of Paragraph 13.02, and present the final Application for Payment to Buyer. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Buyer from loss for the reasons stated in Paragraph 13.02.
- D. If Engineer does not recommend final payment, Engineer will return the final Application for Payment to Seller, indicating the reasons for refusing to recommend final payment, in which case Seller shall make the necessary corrections and resubmit the final Application for Payment.
- E. In support of its recommendation of final payment Engineer will also give written notice to Buyer and Seller that the Goods and Special Services are acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 13.06.
- F. If the final Application for Payment and accompanying documentation are appropriate as to form and substance, Buyer shall, within 30 days after receipt thereof, pay Seller the amount recommended by Engineer, less any sum Buyer is entitled to set off against Engineer's recommendation, pursuant to the provisions of Paragraph 13.04.
- G. Buyer will not make final payment, or return or release included retainage (if any) at any time, unless Seller submits written consent of the surety to such payment, return, or release.

13.06 Waiver of Claims

- A. By making final payment, Buyer waives its claim or right to liquidated damages or other damages for late completion by Seller, except as set forth in an outstanding Claim, appeal, set-off, or express reservation of rights by Buyer. Buyer reserves all other claims or rights after final payment.
- B. The acceptance of final payment by Seller will constitute a waiver by Seller of all claims and rights against Buyer other than those pending matters that have been duly submitted or appealed under the provisions of Article 12.

ARTICLE 14 - CANCELLATION, SUSPENSION, AND TERMINATION

14.01 Cancellation

- A. Buyer has the right to cancel the Procurement Contract, without cause, at any time prior to delivery of the Goods by written notice. Cancellation pursuant to the terms of this paragraph will not constitute a breach of contract by Buyer. Upon cancellation:
 - 1. Buyer shall pay Seller for the direct costs incurred in producing any Goods that Seller has specially manufactured for the Project, plus a fair and reasonable amount for overhead and profit.
 - 2. For Goods that are not specially manufactured for the Project, Seller shall be entitled to a restocking charge of 10 percent of the unpaid Procurement Contract Price of such Goods.

14.02 Suspension of Performance by Buyer

- A. Buyer has the right to suspend performance of the Procurement Contract for up to 90 days, without cause, by written notice. Upon suspension under this paragraph, Seller shall be entitled to an increase in the Procurement Contract Times and Procurement Contract Price caused by the suspension, provided that performance would not have been suspended or delayed for causes attributable to Seller.

14.03 Suspension of Performance by Seller

- A. Seller may suspend the furnishing of the Goods and Special Services only under the following circumstance:
 - 1. Seller has reasonable grounds to conclude that Buyer will not perform its future payment obligations under the Procurement Contract; and
 - 2. Seller has requested in writing assurances from Buyer that future payments will be made in accordance with the Procurement Contract, and Buyer has failed to provide such assurances within ten days of Seller's written request.

14.04 Breach and Termination

- A. Buyer's Breach
 - 1. Seller shall have the right to terminate the Procurement Contract for cause by declaring a breach if Buyer fails to comply with any material provision of the Procurement Contract. Upon termination, Seller shall be entitled to all remedies provided by Laws and Regulations.
 - 2. If Seller believes Buyer is in breach of its obligations under the Procurement Contract, Seller shall provide Buyer with reasonably prompt written notice setting forth in sufficient detail the reasons for declaring that it believes a breach has occurred. Buyer shall have 7 days from receipt of the written notice declaring the breach (or such longer period of time as Seller may grant in writing) within which to cure or to proceed diligently to cure such alleged breach.
- B. Seller's Breach
 - 1. Buyer may terminate Seller's right to perform the Procurement Contract for cause by declaring a breach should Seller fail to comply with any material provision of the Procurement Contract Documents. Upon termination, Buyer shall be entitled to all remedies provided by Laws and Regulations.

2. In the event Buyer believes Seller is in breach of its obligations under the Procurement Contract, Buyer shall provide Seller with reasonably prompt written notice setting forth in sufficient detail the reasons for declaring that it believes a breach has occurred. Seller shall have 7 days from receipt of the written notice declaring the breach (or such longer period of time as Buyer may grant in writing) within which to cure or to proceed diligently to cure such alleged breach.
3. If and to the extent that Seller has provided a performance bond under the provisions of Paragraph 5.01, the notice and cure procedures of that bond, if any, will supersede the notice and cure procedures of Paragraph 14.04.B.2.

ARTICLE 15 - MISCELLANEOUS

15.01 Giving Notice

- A. Whenever any provision of the Procurement Documents requires the giving of written notice to Buyer, Seller, or Engineer, it will be deemed to have been validly given if delivered:
 1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

15.02 Controlling Law

- A. This Procurement Contract is to be governed by the law of the state in which the Goods are to be installed.
- B. In the case of any conflict between the express terms of this Procurement Contract and the Uniform Commercial Code, as adopted in the state whose law governs, it is the intent of the parties that the express terms of this Procurement Contract will apply.

15.03 Computation of Time

- A. When any period of time is referred to in the Procurement Documents by number of days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation. When any period of time is referred to in the Procurement Documents by number of days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

15.04 Cumulative Remedies

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to

be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Procurement Contract, and the provisions of this paragraph will be as effective as if repeated specifically in the Procurement Contract in connection with each particular duty, obligation, right, and remedy to which they apply.

15.05 Survival of Obligations

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Procurement Contract, as well as all continuing obligations indicated in the Procurement Contract, will survive final payment, completion, and acceptance of the Goods and Special Services or termination or completion of the Procurement Contract or of the services of Seller.

15.06 Entire Agreement

- A. Buyer and Seller agree that this Procurement Contract is the complete and final agreement between them, and supersedes all prior negotiations, representations, or agreements, either written or oral. This Procurement Contract may not be altered, modified, or amended except in writing signed by an authorized representative of both parties.

15.07 No Waiver

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Procurement Contract.

15.08 Headings

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

15.09 Successors and Assigns

- A. Buyer and Seller each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Procurement Contract.

END OF DOCUMENT

DOCUMENT 00801

SUPPLEMENTARY CONDITIONS - PROCUREMENT

Scope: These Supplementary Conditions amend or supplement Document 00701 - General Conditions - Procurement and other provisions of the Procurement Documents as indicated in this Document. All provisions which are not so amended or supplemented remain in full force and effect.

ARTICLE 1 — DEFINITIONS

1.01 Defined Terms

SC-1.01 Defined Terms: Add the following definitions immediately after 1.01.40:

41. "Or Equal"—Alternate product that does not affect Contract Time, Contract Price, or Contract Scope.
42. Submittals—Shop Drawings, catalog cuts, samples, operating and maintenance instructions, progress payments, requests, and other documents and items specified to be delivered to Owner or Owner's representative.
43. Substitution - Alternate product that requires a Change Order to adjust the Contract Time, Contract Price, or Contract Scope.

ARTICLE 2 — PRELIMINARY MATTERS (NOT USED)

ARTICLE 3 — PROCUREMENT CONTRACT DOCUMENTS (NOT USED)

ARTICLE 4 — COMMENCEMENT AND SCHEDULE (NOT USED)

ARTICLE 5 — BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

SC-5.01 Add the following paragraphs immediately after Paragraph 5.01.A:

1. Required Performance Bond Form: The performance bond that Seller furnishes will be in the form of Document 00614 - Performance Bond - Procurement.

5.02 Insurance

SC-5.02 Add the following new paragraphs immediately after Paragraph 5.02.E:

- F. Seller shall purchase and maintain such liability and other insurance as is appropriate for the furnishing of Goods and Special Services and as will provide protection from claims set forth below which may arise out of or result from Seller's furnishing of the Goods or Special Services and Seller's other obligations under the Procurement Contract Documents, whether the furnishing of Goods and Special Services or other obligations are to be performed by Seller, any subcontractor or supplier, or by anyone directly or indirectly employed by any of them to furnish the Goods and Special Services, or by anyone for whose acts any of them may be liable:
 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Seller's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Seller's employees;
 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (a) by any person as a result of an offense directly or indirectly related to the employment of such person by Seller, or (b) by any other person for any other reason;
 5. claims for damages, other than to the Goods, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- G. The policies of insurance so required by this Paragraph 5.02 to be purchased and maintained must:
1. with respect to insurance required by Paragraphs SC-5.02.F.3 through SC-5.02.F.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) Buyer, Engineer, their consultants, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds must provide primary coverage for all claims covered thereby;
 2. include at least the specific coverages and be written for not less than the limits of liability provided below or required by Laws or Regulations, whichever is greater;
 3. include completed operations insurance;
 4. include contractual liability insurance covering Seller's indemnity obligations under Paragraph 7.07;
 5. contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within 3 days of receipt of any such written notice, the purchasing policyholder will provide a copy of the notice to the other party, each other insured, and Engineer;
 6. remain in effect at least until final payment and at all times thereafter when Seller may be correcting, removing, or replacing non-conforming Goods in accordance with Paragraph 9.03 and 9.04; and
 7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least 2 years after final payment (and Seller shall furnish Buyer and each other additional insured identified in these Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Buyer and any such additional insured of continuation of such insurance at final payment and 1 year thereafter).

- H. The limits of liability for the insurance required by Paragraph SC-5.02.F must provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs SC-5.02.F.1 and F.2:

Workers' Compensation and Related Policies	Policy limits of not less than
Workers' Compensation	
State	Statutory
Applicable Federal	Statutory
Foreign voluntary workers' compensation (employer's responsibility coverage), if applicable	Statutory
Employer's Liability	
Each accident	\$ 1,000,000
Each employee	\$ 1,000,000
Policy limit	\$ 2,000,000

2. Seller's General Liability under Paragraphs SC-5.02.F.3 through F.6 which must include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Seller:

Commercial General Liability	Policy limits of not less than
General Aggregate	\$ 2,000,000
Products—Completed Operations Aggregate	\$ 1,000,000
Personal and Advertising Injury	\$ 1,000,000
Bodily Injury and Property Damage—Each Occurrence	\$ 1,000,000

3. Transportation Insurance: Transportation insurance shall be of the "all risks" type and shall protect Supplier and Owner from all insurable risks of physical loss or damage to equipment and materials in transit to the designated location. The coverage amount shall be not less than the full value of items exposed to risk in transit at any one time.
- a. Transportation insurance shall provide for losses to be payable to Supplier and Owner as their interests may appear and shall contain a waiver of subrogation rights against the insured parties. For insurance purposes, the risk of loss to equipment and materials shall remain with Supplier until the equipment and materials are accepted by the assignee general construction contractor at the designated location.
- b. Supplier shall submit a copy of the transportation insurance policy to Owner at least 30 days before the scheduled shipping date. The policy shall quote the insuring agreement, shall list all exclusions, and shall state that 30 days' written notice will be given Owner before the policy is changed or canceled.

- I. Seller shall deliver to Buyer, with copies to each additional insured identified in these Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Buyer or any other additional insured) which Seller is required to purchase and maintain.

ARTICLE 6 — LICENSES AND FEES (NOT USED)

ARTICLE 7 — SELLER’S RESPONSIBILITIES (NOT USED)

ARTICLE 8 — SHIPPING AND DELIVERY (NOT USED)

ARTICLE 9 — BUYER’S RIGHTS

9.05 Limitation of Seller’s Liability

SC-9.05 Add the following new heading and subsequent paragraphs after Paragraph 9.04:

9.05 Limitation of Seller’s Liability

- A. Buyer and Seller agree that the total liability of Seller to Buyer for claims, costs, losses, and damages arising from this Procurement Contract will be limited to the amount established in the Procurement Agreement as the Procurement Contract Price.
- B. Upon assignment the terms of this Paragraph 9.05 will be binding upon both the assignor and assignee with respect to Seller’s liability, The terms of this limitation do not apply to or limit any claim by Buyer against Seller based on any of the following: (a) contribution or indemnification with respect to third-party claims, losses, and damages; (b) costs, losses, or damages attributable to personal or bodily injury, sickness, disease, or death, or to injury to or destruction of the tangible property of others, (c) intentional or reckless wrongful conduct, or (d) rights conferred by any bond provided by Seller under this Contract.

ARTICLE 10 — ENGINEER’S STATUS (NOT USED)

ARTICLE 11 — CHANGES

11.02 Change Orders

SC-11.02 Insert the following new subparagraphs immediately following Paragraph 11.02.A.4:

5. In signing a Change Order, the Owner and Contractor acknowledge and agree that:
 - a. the stipulated compensation (Contract Price or Contract Times, or both) set forth in the Change Order includes not only all direct costs of Contractor such as labor, material, job overhead, and profit markup, but also includes any costs for modifications or changes in sequence of work to be performed, delays, rescheduling, disruptions, extended direct overhead or general overhead, acceleration, material or other escalation which includes wages and other impact costs. This Document will become a supplement to the Contract and all Contract provisions will apply hereto. It is understood that this Change Order shall be effective on the date approved by the Owner’s Representative;

- b. the Change Order constitutes full mutual accord and satisfaction for the change to the Work;
- c. no reservation of rights to pursue subsequent claims on the Change Order will be made by either party; and
- d. no subsequent claim or amendment of the Contract Documents will arise out of or as a result of the Change Order.

ARTICLE 12 — CLAIMS, DISPUTES, AND DISPUTE RESOLUTION (NOT USED)

ARTICLE 13 — PAYMENT (NOT USED)

ARTICLE 14 — CANCELLATION, SUSPENSION, AND TERMINATION (NOT USED)

ARTICLE 15 — MISCELLANEOUS (NOT USED)

END OF DOCUMENT

SECTION 01782

OPERATION AND MAINTENANCE MANUALS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Preparation and submittal of manual with requirements to operate and maintain the equipment.

1.02 ADMINISTRATIVE REQUIREMENTS

- A. Sequencing:
 - 1. Submit draft operation and maintenance manuals prior to shipment of the equipment to the Site.
 - 2. Submit approved operation and maintenance manuals at least 30 days prior to Functional Testing and at least 60 days prior to Owner Training.
 - 3. Make final operation and maintenance manuals available at the Site for use by construction personnel.

1.03 SUBMITTALS

- A. Furnish Submittals as specified in Section 01330 - Submittal Procedures and the Technical Sections.
- B. Draft operation and maintenance manuals:
 - 1. Quantity:
 - a. Electronic copy in portable document format (PDF) format.
- C. Final operation and maintenance manuals:
 - 1. Revised in accordance with the Owner's and Engineer's comments on the draft operation and maintenance manuals, and to include Functional Testing results and certificates.
 - 2. Quantity:
 - a. Electronic copy in PDF format plus 1 USB flash drives.
- D. Spare parts list:
 - 1. Provide a consolidated spare part list required in accordance with the Technical Specifications.
 - 2. Engineer and Owner to review list prior to the Contractor's procurement of spare parts.

1.04 PREPARATION

- A. General requirements:
 - 1. Provide dimensions in English units.
 - 2. Assemble material, where possible, in the same order within each volume.

3. Complete forms on computer; handwriting is not acceptable.
 4. Delete items or clearly mark out options not provided in the supplied equipment.
 5. Cover page shall include the following information:
 - a. Operation and maintenance manual.
 - b. Equipment name.
 - c. Specification Section number.
 - d. Equipment tag numbers.
 - e. Owner's name.
 - f. Project number and name.
 - g. Date.
- B. Hard copy requirements:
1. 3-ring D-ring binder with rigid covers.
 - a. Break into separate binders as needed to accommodate size.
 2. Utilize numbered tab sheets to organize information.
 3. Label the binder spine:
 - a. Equipment name.
 - b. Equipment tag numbers.
 - c. Project name.
 - d. Owner's name.
 4. Provide original and clear text on reproducible non-colored paper:
 - a. Size: 8 1/2 by 11 inches.
 - b. Weight: 24 pounds.
 5. Drawings larger than 8 1/2 by 11 inches:
 - a. Fold drawings separately and place in envelope bound into the manual.
 - b. Label each drawing envelope on the outside regarding contents.
- C. Electronic requirements:
1. File format:
 - a. Entire manual in PDF.
 - 1) Include text and drawing information.
 - 2) Provide a single PDF file.
 - 3) Create PDF from the native format of the document (Microsoft Word, graphics programs, drawing programs, etc.).
 - a) Scanned images are not acceptable.
 - b) At file opening, display the entire cover page.
 - 4) Pagination and appearance to match hard copy.
 - 5) Ensure that page numbers are included on every page of the document.
 - 6) Text searchable throughout the entire document, including drawings.
 - 7) Bookmarks: As specified in Section 01330 - Submittal Procedures.
 - 8) Thumbnails optimized for fast web viewing.
 - b. Drawing requirements:
 - 1) White background.
 - 2) Shapes shall not degrade when closely zoomed.
 - 3) Screening effects intended to de-emphasize detail in a drawing must be preserved.
 2. Media:
 - a. USB flash drive.
 3. Label media with the following information:
 - a. Operation and maintenance manual.

- b. Equipment name.
 - c. Specification Section number.
 - d. Equipment tag number.
 - e. Owner's name.
 - f. Project number and name.
 - g. Date.
4. If multiple Submittals are made together, each Submittal must have its own subdirectory that is named and numbered based on the Submittal number.

1.05 CONTENTS

- A. Cover page.
- B. Table of Contents: General description of information provided within each tab section.
- C. Complete Attachment A - Equipment Summary Form.
- D. Completed motor data sheet as specified in Section 16222 - Low Voltage Motors up to 500 Horsepower.
- E. Programming:
 - 1. Provide package control system annotated PLC code, if applicable.
 - 2. Contractor furnished programming.
- F. Description of system and components.
- G. Complete parts list for equipment, including, but not limited to, the following information:
 - 1. Catalog data: Generic title and identification number of each component part of equipment.
 - 2. Include bearing manufacturer, model, and ball or roller pass frequencies for every bearing.
 - 3. Availability.
 - 4. Service locations.
- H. Spare parts list:
 - 1. Recommended number of parts to be stored at the Site and special storage instructions.
- I. Engineering data:
 - 1. Complete set of 11-inch by 17-inch equipment drawings.
 - 2. Exploded view or plan and section views with detailed callouts.
 - 3. Outline, cross-section, and assembly drawings.
 - 4. System drawings: Provide interconnection and wiring diagrams, plan views, panel layouts, bill of materials, etc.
 - 5. Packaged equipment system drawings: Provide instrumentation loop drawings, control schematic diagrams, interconnection and wiring diagrams, plan views, panel layouts, bill of materials, etc.
 - 6. System drawings and data sheets: Include drawings and data furnished by the Engineer and the Supplier; provide "as installed" version.

- 7. Provide electrical and instrumentation schematic record drawings.
- 8. Information required by the Technical Specifications.
- J. Description of equipment function, normal operating characteristics, and limiting conditions.
- K. Online resources.
- L. Telephone resources.
- M. Approved Submittals.
 - 1. Markup with any field changes.
 - 2. Quality Control Submittals:
 - a. Source Testing and Functional Testing test reports and test data.
 - b. Manufacturer's certificates.
 - c. Performance curves.
- N. Start-up procedures: Recommendations for installation, adjustment, calibration, and troubleshooting.
- O. Operating procedures:
 - 1. Step-by-step instructions, including, but not limited to, the following:
 - a. Safety precautions and applicable safety data sheets.
 - b. Guidelines.
 - c. Other information as needed for safe system operation and maintenance.
- P. Preventative maintenance procedures:
 - 1. Recommended steps and schedules for maintaining equipment.
 - 2. Troubleshooting.
- Q. Storage instructions.
- R. Lubrication information: Required lubricants and lubrication schedules.
- S. Overhaul instructions: Directions for disassembly, inspection, repair and reassembly of the equipment; safety precautions; and recommended tolerances, critical bolt torques, and special tools that are required.
- T. Manufacturer's technical reference manuals.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

ATTACHMENT A - EQUIPMENT SUMMARY FORM

EQUIPMENT SUMMARY FORM

1. EQUIPMENT ITEM: _____
2. MANUFACTURER: _____
3. EQUIPMENT TAG NUMBER(S): _____
4. LOCATION OF EQUIPMENT: _____
5. WEIGHT OF INDIVIDUAL COMPONENTS (OVER 100 POUNDS): _____

6. NAMEPLATE DATA:

Horsepower: _____

Amperage: _____

Voltage: _____

Service Factor (S.F.): _____

Speed: _____

ENC Type: _____

Capacity: _____

Other: _____

7. MANUFACTURER'S LOCAL REPRESENTATIVE:

Name: _____

Address: _____

Telephone Number: _____

8. MAINTENANCE REQUIREMENTS:

Maintenance Operation	Frequency	Lubricant (if applicable)	Comments
(List each operation required. Refer to specific information in manufacturer's manual, if applicable)	(List required frequency of each maintenance operation)	(Refer by symbol to lubricant list as required)	

9. LUBRICANT LIST:

Reference Symbol	Conoco Phillips	Exxon/Mobil	BP/Amoco	Other (List)
(Symbols used in Item 8 above)	(List equivalent lubricants, as distributed by each manufacturer for the specific use recommended)			

10. SPARE PARTS (recommendations): _____

11. COMMENTS: _____

12. GENERAL INFORMATION:

Date Accepted:* _____

Expected Life:* _____

Project Name and Number: _____

Design Engineer: _____

13. WARRANTY:

Start Date: _____

Expiration Date: _____

Prorated: _____

SECTION 01783
WARRANTIES AND BONDS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Warranty and bonds requirements.

1.02 SUBMITTALS

- A. For each item of material or equipment furnished under the Contract:
 - 1. Submit manufacturer's warranty prior to fabrication and shipment of the item from the manufacturer's facility.
 - 2. Submit manufacturer's special warranty when specified.
- B. Provide consolidated warranties and bonds within 15 calendar days of Substantial Completion.
 - 1. Contents:
 - a. Organize warranty and bond documents:
 - 1) Include Table of Contents organized by Specification Section number and the name of the product or work item.
 - b. Include each required warranty and bond in proper form, with full information, certified by manufacturer as required, and properly executed by Contractor, or subcontractor, supplier, or manufacturer.
 - c. Provide name, address, phone number, and point of contact of manufacturer, supplier, and installer, as applicable.
 - 2. Hardcopy format:
 - a. Submit 1 copy.
 - b. Assemble in 3 D-side ring binders with durable cover.
 - c. Identify each binder on the front and spine with typed or printed title "Warranties and Bonds"; Project Name or Title, and the Name Address and Telephone Number of the Contractor.
 - 3. Electronic copy in PDF format:
 - a. Submit 1 copy.

1.03 OWNER'S RIGHTS

- A. Owner reserves the right to reject warranties.
- B. Owner reserves the right to refuse to accept Work for the project if the required warranties have not been provided.

1.04 RELATIONSHIP TO GENERAL WARRANTY AND CORRECTION PERIOD

- A. Warranties specified for materials and equipment shall be in addition to, and run concurrent with, both Contractor's general warranty and the correction period requirements.
- B. Disclaimers and limitations in specific materials and equipment warranties do not limit Contractor's general warranty, nor does such affect or limit Contractor's performance obligations under the correction period.

1.05 MANUFACTURER'S 1 YEAR WARRANTY MINIMUM REQUIREMENTS

- A. Written warranty issued by item's manufacturer.
- B. Project-specific information, properly executed by product manufacturer, and expressly states that its provisions are for the benefit of the Contractor.
- C. Covers all costs associated with the correction of the defect, including, but not limited to, removal of defective parts, new parts, labor, and shipping.
- D. Provides a timely response to correct the defect.
 - 1. Manufacturer shall provide, in a timely fashion, temporary equipment as necessary to replace warranted items requiring repair or replacement, when warranted items are in use and are critical to the treatment process, as defined by Owner.
- E. Warranty commence running on the date of substantial completion.
 - 1. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit warranty within 10 calendar days after acceptance, listing date of acceptance as beginning of warranty period.
- F. Duration of warranty: 1 year.

1.06 MANUFACTURER'S SPECIAL WARRANTY

- A. Manufacturer's special warranty is a written warranty published by the manufacturer which includes the requirements as specified in the Technical Section.
 - 1. Project-specific information and requirements.
 - 2. Properly executed by product manufacturer.
 - 3. Expressly states that its provisions are for the benefit of the Contractor or Owner.
 - 4. Manufacturer's special warranties commence on the date that the associated item is certified by Engineer as substantially complete.

1.07 WARRANTY WORK

- A. Contractor's responsibilities:
 - 1. Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the work that incorporates the product, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with Contractor.

- B. Replacement cost:
 - 1. Upon determination that work covered by warranty has failed, replace or rebuild the work to an acceptable condition complying with requirement of the Contract Documents.
 - a. Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether Owner has benefited from the use of the work through a portion of its anticipated useful service life.
- C. Related damages and losses:
 - 1. When correcting warranted work that has failed, remove and replace other work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted work.
- D. Owner's recourse:
 - 1. Written warranties are in addition to implied warranties, and shall not limit the duties, obligations, rights, and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitation on time in which Owner can enforce such other duties, obligations, rights, or remedies.
- E. Reinstatement of warranty:
 - 1. When work covered by a warranty has failed and has been corrected by replacement or rebuilding, reinstate the warranty by written endorsement.
 - a. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

1.08 IMPLIED WARRANTIES

- A. Warranty of title and intellectual rights:
 - 1. Except as may be otherwise indicated in the Contract Documents, implied warranty of title required by Laws and Regulations is applicable to the Work and to materials and equipment incorporated therein.
 - 2. Provisions on intellectual rights, including patent fees and royalties, are in the General Conditions, as may be modified by the Supplementary Conditions.
- B. Implied warranties: Duration in accordance with Laws and Regulations.

1.09 BONDS

- A. Equipment bond and other bond requirements as specified in the Technical Sections.
- B. Bonds commence running on the date of substantial completion.
 - 1. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit warranty within 10 calendar days after acceptance, listing date of acceptance as beginning of bond period.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 13447
ELECTRIC ACTUATORS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Electric motor-driven actuators to be installed on existing gates.
- B. Equipment tag numbers:
 - 1. As scheduled.

1.02 REFERENCES

- A. American Water Works Association (AWWA):
 - 1. C504 - Standard for Rubber-Seated Butterfly Valves.
 - 2. C542 - Standard for Electric Motor Actuators for Valves and Slide Gates.
- B. International Organization for Standardization (ISO):
 - 1. 12944 - Paints and Varnishes.
- C. National Electrical Manufacturers Association (NEMA):
 - 1. 250 - Enclosures for Electrical Equipment (1,000 V Maximum).

1.03 SUBMITTALS

- A. Furnish Submittals as specified in Section 01330 - Submittal Procedures and Section 01600 - Product Requirements.
- B. Provide a complete list/schedule of actuators being provided with their associated tag names, as indicated on the Drawings and/or Specifications, service process area and the size of the valve they are actuating.
- C. Product data:
 - 1. Electrical ratings:
 - a. Voltage and number of phases.
 - b. Starting and running current.
 - c. Voltage levels and source for control and status.
 - 2. Description of integral control interface.
 - 3. Remote control station components (If applicable).
 - 4. Environmental ratings, including NEMA enclosure rating and submergence capabilities.
 - 5. Gear ratios for both manual and motorized actuation.
 - 6. Opening and closing directions.
 - 7. Electric motor data.
 - 8. Allowable starts per hour.
 - 9. List of included options and accessories.

10. Full travel times.
 11. Gearbox data, including gear ratio, and gearbox efficiency.
- D. Shop Drawings:
1. Wiring diagrams:
 - a. Include options and expansion cards furnished with each actuator.
 2. Dimensioned drawings of each valve and actuator combination.
 3. Dimensioned drawings of each valve gearbox.
- E. Calculations:
1. Operating torque.
 2. Maximum torque calculations for seating and unseating.
 3. Maximum operating torque at starting and normal operation.
- F. Installation instructions:
1. Detail the complete installation of the equipment, including rigging, moving, and setting into place.
 2. Provide manufacturer's installation instructions.
- G. Quality Control Submittals:
1. Manufacturer's representative qualifications.
 2. Manufacturer's Certificate of Source Testing as specified in Section 01756 - Commissioning.
 3. Manufacturer's Certificate of Installation as specified in Section 01756 - Commissioning.
 4. Manufacturer's Certificate of Functional Compliance as specified in Section 01756 - Commissioning.
- H. Owner Training Submittals:
1. As specified in Section 01756 - Commissioning.
- I. Operation and maintenance manuals:
1. As specified in Section 01782 - Operation and Maintenance Manuals.
 2. Include a list of configurable parameters and the final values for each.
 3. Include a troubleshooting chart covering the complete valve and controls/electrical power systems, showing description of trouble, probable cause, and suggested remedy.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. As specified in Section 01600 - Product Requirements, Section 15050 - Common Work Results for Mechanical, and the manufacturer's instructions.

1.05 PROJECT OR SITE CONDITIONS

- A. As specified in Section 01850 - Design Criteria.

1.06 MAINTENANCE

- A. As specified in Section 01600 - Product Requirements.

- B. Spare parts:
 - 1. Provide the following (minimum 10 percent of total number of actuators of each model type furnished, but not less than 1 for each model of actuator furnished):
 - a. Stem nut.
 - b. Worm shaft subassembly.
 - c. Drive sleeve subassembly.
 - d. Complete actuator seal kit.
 - e. Actuator gearbox oil (sufficient quantity to fill 4 gearboxes).
 - f. Encoder.
 - g. Control module.
 - 2. Provide 1 spare motor for each size motor furnished.
- C. Setting tool:
 - 1. If required for setting or configuring the actuator, provide a handheld setting tool. Furnish 1 setting tool for every 10 actuators.

1.07 WARRANTY

- A. As specified in Section 01783 - Warranties and Bonds.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Lines 4 inches and larger:
 - 1. One of the following or equal:
 - a. Rotork Controls Inc. IQ3 Range:
 - 1) IQ for multi-turn applications.
 - 2) IQT for quarter-turn applications.

2.02 MATERIALS

- A. Enclosures:
 - 1. Constructed of materials suitable for the environment where the actuator will be installed.
 - 2. Stainless steel external fasteners.
 - 3. Provide O-ring seals for each of the following areas:
 - a. Between the terminal compartment and the internal electrical elements.
 - b. Between the mechanical and electrical portions to protect from the ingress of oil, and to protect the mechanical components of oil from dust and moisture when the electrical terminal is open.
 - 4. Ratings:
 - a. As scheduled and specified:
 - b. NEMA Type 6P: Double sealed and IP68 rated for prolonged submergence.
 - c. XP: Factory Mutual (FM) approved for Class I, Division 1 and Division 2 locations.

- B. Coatings:
 - 1. Material requirements:
 - a. Factory prime and coat with an ISO 12944 classification coating of C5M (Marine, offshore estuaries with high salinity) coating with 15 year durability.
 - b. Touch-up damaged coatings with manufacturer provided coating repair kit.
 - 2. Application requirements:
 - a. Painting shall commence within 4 hours of blast cleaning.
 - b. Each paint coat within the system is to be applied in accordance with the paint manufacturer's instructions.
 - c. Paint thickness shall be checked for each coat on each actuator.
 - 3. Qualification requirements:
 - a. Operators shall be experienced and proficient in surface preparation and coating application techniques.
 - b. Personnel shall have relevant knowledge of health and safety hazard, use of protective equipment, coating materials, mixing and thinning coatings, coating pot life, surface requirements, etc.
 - c. Personnel carrying out inspection or verification shall be certified as NACE coating inspector or equivalent such as ICorr.

2.03 CHARACTERISTICS FOR ACTUATORS ON LINES 4 INCHES AND LARGER

- A. Provide actuators complete and operable with all components and accessories required for operation.
- B. Power supply:
 - 1. Voltage and phases as indicated in the Actuator Schedule.
 - 2. Valve or gate motion independent of power supply phase rotation.
 - 3. Provide an internal backup power source or mechanical indicator to maintain settings and track valve position when main power is off.
 - 4. Actuators shall incorporate major components such as the motor, starter, local controls, terminals, etc., housed within a self-contained, sealed enclosure.
- C. Size actuator to move gates or valves from full open to closed position within the time indicated in the Actuator Schedule:
 - 1. If an operating time is not indicated on the Actuator Schedule, size the actuator to move gates or valves at minimum 12 inches per minute under maximum load. Measure rate of closure for valves at maximum diameter of disc, plug, or ball.
 - 2. Size actuators so that gear boxes are not required where possible.
- D. Control interface:
 - 1. Configuration:
 - a. Provide a non-intrusive, non-contacting interface for configuring input and output settings, control values, ranges, torque switch settings, valve positions switch settings, and options.
 - 1) Configurable from a handheld configuring tool or input devices on the actuator.
 - 2. Local interface, integral to actuator:
 - a. Non-intrusive, non-contacting selector switches:
 - 1) LOCAL-STOP-REMOTE:
 - a) Motor actuator operation is prevented with the switch in STOP.

- 2) OPEN-CLOSE:
 - a) Controls the valve when LOCAL-STOP-REMOTE is in LOCAL.
 - b) Spring return to center.
 - c) Configurable between maintained (actuator runs until end of travel, high torque, or a LOCAL-STOP-REMOTE is switched to STOP) and momentary (actuator stops when lever is released).
 - b. Local display:
 - 1) Valve fully open and fully closed indicators.
 - 2) Numerical display showing actual valve or gate position in percent of travel.
 3. Control inputs:
 - a. Capable of using discrete 24 VDC.
 - b. Controls the valve when LOCAL-STOP-REMOTE is in REMOTE.
 - c. Isolated inputs capable of operating from external control voltage source or internal power supply.
 - d. Provide the following inputs:
 - 1) OPEN.
 - 2) CLOSE.
 - 3) STOP.
 - e. OPEN and CLOSE inputs configurable between maintained (actuator runs until end of travel, high torque, or a STOP input) and momentary (actuator stops when command is removed).
 4. Status outputs:
 - a. Monitor relay output: Dry contact, normally closed, opens when actuator is not in REMOTE or in the event of any internal fault or alarm condition.
 - b. Dry contact outputs configured for the functions indicated on the Drawings. Provide the following outputs for all actuators:
 - 1) Fully closed.
 - 2) Fully open.
 - 3) LOCAL-STOP-REMOTE in REMOTE position.
 - c. Contacts and communications:
 - 1) As specified in the Contract Documents.
 - 2) Dry contacts rated for both 120 VAC and 24 VDC.
 - d. Analog input:
 - 1) 4 to 20 mA analog input for analog modulating valves when indicated on the Drawings.
 - e. Analog output:
 - 1) Isolated 4 to 20 mA analog output when indicated on the Drawings.
 - a) Loop power sourced from the actuator power supply.
 - b) Output proportional to process value(s) indicated on the Drawings.
- E. Features:
1. Time delay on reversal: Incorporate time delay between stopping actuator and starting in opposite direction to limit excessive current, torque, and heating from instantaneous reversal.
 2. Data logging:
 - a. Store diagnostic data and reference data.
 - b. Time-stamped historical operating data, including number of operations.

- c. Torque profiles showing actual torque at each valve position through the operating range.
 - 1) Store reference data (recorded during commissioning) and data from last operation.
- 3. Provide display of logged data on the actuator, or provisions to download to a personal computer.

F. Components:

- 1. Motors:
 - a. Specifically designed for valve actuator service with high starting torque, totally enclosed non-ventilated construction.
 - b. Torque ratings equal to or greater than that required for valve seating and dynamic torques with a 25 percent factor of safety.
 - 1) Design requirements for rubber-seated AWWA butterfly valves:
 - a) Design actuators for maximum gate or valve operating torque, in accordance with and using safety factors required in AWWA C504 and AWWA C542.
 - (1) Valve actuator torque requirement for open-close service: Not less than the required valve-seating and dynamic torques under design operating conditions in accordance with AWWA C504.
 - (2) Valve actuator torque requirement for modulating service: Not less than twice the required valve dynamic torque under design operating conditions in accordance with AWWA C504.
 - 2) Design requirements for slide gates, gate valves, knife gate valves, globe valves, and diaphragm valves:
 - a) Design valves and actuators for maximum operating torque in accordance with and using safety factors required in AWWA C542.
 - b) Design for the maximum torque and thrust running load over the full cycle.
 - c) Maximum torque or thrust rating: Actuator stall torque or maximum thrust output shall not exceed the torque or thrust capability of the valve or gate, as determined by the valve or gate manufacturer.
 - c. Capable of being removed and replaced without draining the actuator gear case.
 - d. Motor bearings shall be amply proportioned of the anti-friction type and permanently lubricated.
 - e. Rated for operating under the following conditions without exceeding temperature limits with ambient temperature of 40 degrees Celsius.
 - 1) Continuous operation for 15 minutes or twice the open-to-close operating time (whichever is greater) at normal operating torque or 33 percent of maximum torque (whichever is greater).
 - 2) 60 starts per hour for open/close service or 1,200 starts per hour for modulating service.
 - f. Provide the following motor protection features:
 - 1) Jammed valve (no valve motion detected through a time delay).
 - 2) High motor temperature (sensed by an embedded thermostats).
 - 3) High torque.

4) Single phasing protection.

G. Position sensing:

1. Electronic and adjustable using a solid-state encoder wheel.
 - a. Mechanical limit switches and potentiometers are not acceptable.
2. Capable of retaining position and monitoring valve or gate motion when valve is manually actuated and when main power is not present.
3. Valve range and position switch outputs field adjustable.

H. Torque sensing:

1. Torque shutdown setting: 40 percent to 100 percent rated torque:
 - a. Adjustable in 1 percent increments.
2. Torque display: 0 to 100 percent-rated torque.
3. Capable of interrupting control circuits during both opening and closing and when valve torque overload occurs.
4. Electrical or electronic torque sensing.
5. Independent of variations in frequency, voltage, or temperature.
6. Actuator shall store actual operational torque curves for retrieval by plant maintenance staff.
7. Provide a temporary inhibit of the torque sensing system during unseating or during starting in mid-travel against high inertia loads.
8. Provide visible verification of torque switch status without any housing disassembly.

I. Manual actuators:

1. Hand wheel for manual operation.
 - a. Maximum 80-pound pull on rim when operating gate or valve under maximum load.
 - b. Provide pull chain when motorized actuator is located more than 6 feet above floor surface.
 - 1) Chain shall be of sufficient length to reach approximately 4 feet above the operating level.
 - 2) Where the chain obstructs an aisle or walkway, provide holdback or other means to ensure chain does not create a nuisance or hazard to operating personnel.
 - 3) Provide Type 316 stainless steel.
2. Declutch lever: Padlockable, capable of mechanically disengaging motor and related gearing and freeing hand wheel for manual operation.

J. Gearing: Hardened alloy steel spur or helical gears and self-locking, alloy bronze worm gear set.

1. Accurately cut to ensure minimum backlash.

K. Bearings:

1. Anti-friction bearing with caged balls or rollers throughout.
2. Sealed-for-life type thrust bearings housed in a separate thrust base.

L. Drive bushing:

1. Easily detachable for machining to suit the valve stem or gearbox input shaft.
2. Positioned in a detachable base of the actuator.

- M. Lubrication:
 - 1. Provide totally enclosed actuator gearing with oil or grease filled gear case suitable for operation at any angle.
 - 2. Actuators requiring special or exotic lubricants are not acceptable.

2.04 ACCESSORIES

- A. Software:
 - 1. Furnish PC-based diagnostic and configuration software to display diagnostic data and configure actuators.
 - 2. Provide software communications to the valve actuator and handheld setting tool using Bluetooth wireless or IrDA infrared communications.
 - a. Provide accessories and drivers required for operation and communications with a standard personal computer running Microsoft Windows.
 - b. Where infrared communications are used, furnish an IrDA to USB adapter with a mounting device to secure the infrared element to the valve actuator IrDA port:
 - 1) Provide with a minimum cable length of 3 feet, capable of being extended with a standard USB extension cable.
- B. Termination module cover:
 - 1. For actuators on a valve network, provide a means to keep the valve network in service, in the event where the actuator must be removed.
 - 2. Provide sunshades for outdoor installations of remote control stations that use an LCD or similar screen. Regular pushbutton, sector switches, and pilot light control stations will not require a sunshade.

2.05 SOURCE QUALITY CONTROL

- A. Source Testing:
 - 1. Design and performance test reports in accordance with AWWA C542.
 - 2. Test each actuator with a simulated load.
 - a. Simulate a typical valve load.
 - 3. Furnish test reports and the Manufacturer's Certificate of Source Testing.

PART 3 EXECUTION

3.01 INSTALLATION

- A. As specified in Section 15050 - Common Work Results for Mechanical Equipment.
- B. Install the equipment in accordance with the manufacturer's instructions.
- C. Position visual indicators so that they are most easily visible.
- D. Installation Verification:
 - 1. Furnish Manufacturer's Certificate of Installation Verification.

3.02 FIELD QUALITY CONTROL

- A. As specified in Section 01756 - Commissioning, Section 15958 - Mechanical Equipment Testing, and this Section.
- B. Functional Testing:
 - 1. Installed actuator:
 - a. Test witnessing: Witnessed.
 - b. Conduct Level 1 General Equipment Performance Tests.
 - 2. Electrical Instrumentation and Controls:
 - a. Test witnessing: Witnessed.
 - b. Conduct testing as specified in Section 17950 - Commissioning for Instrumentation and Controls.

Furnish test reports and the Manufacturer's Certificate of Functional Compliance.

3.03 ACTUATOR SCHEDULE

- A. Provide actuators indicated on the Drawings:
 - 1. Major process actuators are listed in the Actuator Schedule shown in Attachment A - Actuator Schedule.
 - a. Attachment A - Actuator Schedule does not include all number and types of actuators required for the Project.

END OF SECTION

ATTACHMENT A - ACTUATOR SCHEDULE

ACTUATOR SCHEDULE

Item	Reference DWG	Type	Size	Duty	NEMA Rating	Voltage/Phase/Hz	Notes	Service	Controls
BIO 1 EFFLUENT GATE EAM-31260	31N03	SG		MD	XP	480/3/60 Hz	2	CTRL	A
BIO 2 EFFLUENT GATE EAM-32360	32N03	SG		MD	XP	480/3/60 Hz	2	CTRL	A
Notes: (1) Provide actuators with remote control station. (2) New motorized actuator to be installed on existing equipment. Field verify characteristics prior to sizing motor actuator.									
Abbreviations: Type: BFV = Butterfly Valve. BV = Ball Valve. PV = Plug Valve. SG = Slide Gate. NEMA Rating: 4X for general locations. 6P for vaults and possible submergence. XP for Class I, Division 1 and Division 2 locations. Controls: A = Analog. D = Discrete. DP = Profibus DP. E-IP = Ethernet/IP. Duty: MD = Modulating duty (~1,200 starts/hr). MOD = Modulating. STD = Standard service (0-60 starts/hr) duty. Service: CTRL = Control. O/C = Open/Close. E-TCP = Ethernet TCP or TCP/IP. FF = Foundation Fieldbus H1. MB = Modbus RTU (RS-485). NET = Manufacturer's proprietary network. PA = Profibus PA.									

SECTION 17050

COMMON WORK RESULTS FOR PROCESS CONTROL AND INSTRUMENTATION SYSTEMS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Process control and instrumentation systems requirements for common components including installation, including, but not limited to, the following:
 - a. Hardware.
 - b. Software.
 - c. Programming.
 - d. Testing.
 - e. Commissioning.
 - 2. Loop drawings:
 - a. Provide complete loop drawings for all systems, including packaged equipment furnished as part of a vendor furnished package, and pre-purchased equipment.
 - b. The form, minimum level of detail, and format for the loop drawings must match that of the sample loop drawings included in the Contract Documents.
 - c. Owner and Engineer are not responsible for providing detailed loop diagrams for Contractor-furnished equipment.
 - 3. Requirements of the Instrumentation and Control Specifications apply to all Instrumentation and Control Work specified in Technical Sections, including packaged mechanical systems, local control panels (LCPs), vendor control panels (VCPs), etc.
- B. Contract Drawings:
 - 1. Schematic diagrams:
 - a. Use schematic diagrams in conjunction with the descriptive operating sequence in the Technical Sections to furnish a coordinated and fully functional control system.
 - b. Schematic diagrams show control function only.
 - 1) Incorporate other necessary functions for proper operation and protection of the system.
 - c. Controls are indicated on the Drawings as de-energized.
 - d. Add relays, where required, to provide necessary contacts for the control system or where needed to function as interposing relays for control voltage coordination, equipment coordination, or control system voltage drop considerations.
 - e. Mount devices shown on motor controller schematic diagrams in the controller compartment enclosure, unless otherwise noted or indicated on the Drawings.

1.02 REFERENCES

A. Abbreviations:

1. ACB: Automatic current balance.
2. ATS: Automatic transfer switch.
3. CCS: The PCS central computer system (CCS) consisting of computers and software. The personal computer-based hardware and software system that includes the operator interface, data storage, data retrieval, archiving, alarming, historian, reports, trending, and other higher level control system software and functions.
4. DPDT: Double-pole, double-throw.
5. ECP: Electronic circuit protector.
6. ES: Ethernet switch.
7. FAT: Factory acceptance test, also known as Source Test.
8. HART: Highway addressable remote transducer.
9. HMI: Human machine interface is a software application that presents information to an operator or user about the state of a process, and to accept and implement the operators control instructions. Typically, information is displayed in a graphical format.
10. HOA: Hand-Off-Auto control function that is totally PLC based. In the Hand mode, equipment is started or stopped, valves are opened or closed through operator direction under the control of the PLC software. In the Auto mode, equipment is started or stopped, and valves are opened or closed through a control algorithm within the PLC software. In the Off mode, the equipment is prohibited from responding from the PLC control.
11. I/O: Input/output.
12. ICSC: Instrumentation and control system contractor: Subcontractor who specializes in the design, construction, fabrication, software development, installation, testing, and commissioning of industrial instrumentation and control systems.
13. IJB: Instrument junction boxes: A panel designed with cord sets to easily remove, replace, or relocate instrument signals.
14. IP: Internet protocol or ingress protection.
15. LAN: Local area network: A control or communications network that is limited to the physical boundaries of the facility.
16. LCP: Local control panel: Operator interface panel that may contain an HMI, pilot type control devices, operator interface devices, control relays, etc., and does not contain a PLC or RIO.
17. LOI: Local operator interface: An operator interface device consisting of an alphanumeric or graphic display with operator input functionality. The LOI is typically a flat panel type of display mounted on the front of an enclosure with either a touch screen or tactile button interface.
18. LOR: Local-Off-Remote control function. In the Remote mode, equipment is started or stopped, and valves are opened or closed through the PLC based upon the selection of the LOR. In the Local mode, equipment is started or stopped, valves are opened or closed based upon hardwired control circuits completely independent of the PLC with minimum interlocks and permissive conditions. In the Off mode, the equipment is prohibited from responding to any control commands.
19. NP: Network panel. An enclosure that contains network equipment.
20. P&ID: Process and instrumentation diagram.

21. PC: Personal computer.
22. PCIS: Process control and instrumentation system: Includes the entire instrumentation system, the entire control system, and all of the Work specified in the Instrumentation and Control Specifications and depicted on the Instrumentation Drawings. This includes all the PCS and instruments and networking components as well as the various servers, workstations, thin clients, etc.
23. PCM: Process control module: An enclosure containing any of the following devices: PLC, RTU, or RIO.
24. PCS: Process control system: A general name for the computerized system that gathers and processes data from equipment and sensors and applies operational controls to the process equipment. It includes the PLCs and/or RIOs, LOIs, HMIs, both LCPs, VCPs, and all data management systems accessible to staff.
25. PLC: Programmable logic controller.
26. PS: Power supply.
27. RIO: Remote I/O device for the PLC consisting of remote I/O racks or remote I/O blocks.
28. RTU: Remote telemetry unit: A controller typically consisting of a PLC and a means for remote communications. The remote communications devices typically are radios, modems, etc.
29. SCADA: Supervisory control and data acquisition system: A general name for the computerized system that gathers and processes data from sensors and equipment located outside of the facility, such as wells, lift stations, metering stations, etc.
30. SELV: Safety extra-low voltage.
31. SFP: Small form-factor pluggable.
32. SPDT: Single-pole, double-throw.
33. SPST: Single-pole, single-throw.
34. UPS: Uninterruptible power supply.
35. VCP: Vendor control panel: Control panels that are furnished with particular equipment by a vendor other than the ICSC. These panels may contain PLCs, RIO, LOI, HMI, etc.
36. WAN: Wide area network: A control or communications network that extends beyond the physical boundaries of the facility.

B. Standards:

1. American Petroleum Institute (API):
 - a. RP 550 - Manual on Installation of Refinery Instruments and Control Systems; Part II-Process Stream Analyzers; Section 5-Oxygen Analyzers.
 - b. RP 551 - Process Measurement Instrumentation.
2. International Organization for Standardization (ISO):
 - a. 9001 - Quality Management Systems - Requirements.
3. International Society of Automation (ISA):
 - a. 5.1 - Instrumentation Symbols and Identification.
 - b. 5.4 - Instrument Loop Diagrams.
 - c. 20 - Instrument Forms Plus Pro-Combo-Enterprise Version (Microsoft SQL Server Express Database Software based).
4. National Electrical Manufacturers Association (NEMA):
 - a. 250 - Enclosures for Electrical Equipment (1,000 V Maximum).

5. National Fire Protection Association (NFPA):
 - a. 70 - National Electrical Code (NEC).
6. National Institute of Standards and Technology (NIST).
7. NSF International (NSF):
 - a. 61 - Drinking Water System Components - Health Effects.
 - b. 372 - Drinking Water System Components - Lead Content.
8. Underwriters Laboratories, Inc. (UL):
 - a. 508 - Standard of Safety for Industrial Control Equipment.
 - b. 508A - Standard of Safety for Industrial Control Panels.

1.03 TERMINOLOGY

- A. The words and terms listed below are not defined terms that require initial capital letters, but, when used in this Section, have the indicated meaning.
1. 2-wire transmitter (loop powered): A transmitter that derives its operating power supply from the signal transmission circuit and requires no separate power supply connections. As used in this Section, 2-wire transmitter refers to a transmitter that provides a signal such as 4 to 20 mA 24 VDC regulation of a signal in a series circuit with an external 24 VDC driving potential:
 - a. Fieldbus communications signal or both.
 2. 4-wire transmitter: A transmitter that utilizes a power loop separate from the signal loop. With the power loop isolated from the signal loop, the source of instrument power can be 24 VAC/VDC or 120/240 VAC. The transmitter provides a 4 to 20 mA 24 VDC signal.
 3. Control circuit: Any circuit operating at 120 volts alternating current (VAC) or direct current (VDC) or less, whose principal purpose is the conveyance of information (including performing logic) and not the conveyance of energy for the operation of an electrically powered device.
 4. Digital bus: A communication network, such as PROFIBUS, Foundation Fieldbus, or DeviceNet, allowing instruments and devices to transmit data, control functions, and diagnostic information.
 5. Instrument: A measurement device that includes a sensor for taking the measurement and one or both of the following:
 - a. A local display.
 - b. A device for communicating the measurement to a remote location such as a PLC or DCS.
 6. Modifications: Changing, extending, interfacing to, removing, or altering an existing circuit.
 7. Panel: An instrument support system that may be a flat surface, a partial enclosure, or a complete enclosure for instruments and other devices used in process control systems.
 8. Power circuit: Any circuit operating at 90 volts (AC or DC) or more, whose principal purpose is the conveyance of energy for the operation of an electrically powered device.
 9. Powered transmitters: A transmitter that requires a separate power source (120 VAC, 240 VAC, etc.) in order for the transmitter to develop its signal. As used in this Section, the produced signal may be a 4 to 20 mA 24 VDC signal, a digital bus communications signal, or both.
 10. Programmer: Responsible for PLC programming and SCADA/HMI software configuration.

11. RS-485: Also known as TIA-485 or EIA-485. Is a standard defining the electrical characteristics of drivers and receivers for use in serial communications system. Electrical signaling is balanced, and multipoint systems are supported, can be used with data rates up to 10 Mbit/s or at lower speeds distances up to 1,200 meters (4,000 feet).
12. Signal circuit: Any circuit operating at less than 50 VAC or VDC, which conveys analog information or digital communications information.

1.04 DELEGATED DESIGN

- A. Requirements for Delegated Design are specified in the Technical Sections.

1.05 SUBMITTALS

- A. General:
 1. Adhere to the wiring numbering scheme as specified in Section 16075 - Identification for Electrical Systems throughout the Project:
 - a. Uniquely number each wire.
 - b. Wire numbers must appear on equipment drawings.
 2. Some items of Work are represented schematically and are designated for the most part by numbers, as derived from criteria in ISA-5.1:
 - a. Employ the nomenclature and numbers specified in this Section and indicated on the Drawings exclusively throughout Shop Drawings, datasheets, and similar Submittals.
 - b. Replace any other symbols, designations, and nomenclature unique to a manufacturer's, Supplier's, or Subcontractor's standard methods with those specified in this Section and indicated on the Drawings.
- B. Specific Submittal requirements:
 1. Control panel drawings:
 - a. General requirements:
 - 1) Submit panel, enclosure, console, furniture, and cabinet layout drawings for items provided.
 - 2) Use equipment and instrument tags as depicted on the P&IDs for all Submittals.
 - 3) Nameplates and wire labeling:
 - a) Nameplate legend, including text, letter size, materials, and colors.
 - b) As specified in Section 16075 - Identification for Electrical Systems or as indicated on the Drawings.
 - 4) Structural requirements:
 - a) Anchoring method and leveling criteria, including manufacturer's recommendations for the Project Site seismic criteria.
 - b) Weight.
 - 5) Clearly show modifications to existing circuits:
 - a) Show existing unmodified wiring to clearly depict the functionality and electrical characteristics of the complete modified circuits.
 - b. Required for materials and equipment listed in this and other Technical Sections.
 - c. Front, side, rear, internal, external elevations, and top and bottom views, showing all dimensions and all to scale.
 - 1) Locations of conduit entrances and access plates.

- 2) Component layout and identification.
 - 3) Complete and detailed bills of materials:
 - a) Including quantity, description, manufacturer, and part number for each assembly or component for each control panel.
 - b) Include all items within an enclosure.
 - 4) Requirements for physical separation between control system components and 120 VAC, 480 VAC, and medium-voltage power cables.
 - 5) Complete grounding requirements for each system component, including any requirements for PLCs, process LANs, and control system equipment.
 - 6) PLC rack and card layout:
 - a) Provide a count of current I/O allocation.
 - b) Future I/O allocation.
 - c) Quantity of spares provided.
 - 7) NEMA rating.
 - 8) Material and finish.
2. Schematics and wiring diagrams:
- a. General requirements:
 - 1) Submit panel wiring diagrams for every panel that contains wiring.
 - 2) Use equipment and instrument tags as depicted on the P&IDs for all Submittals.
 - 3) Nameplates and wire labeling:
 - a) As specified in Section 16075 - Identification for Electrical Systems or as indicated on the Drawings.
 - 4) Clearly show modifications to existing circuits:
 - a) Show existing unmodified wiring to clearly depict the functionality and electrical characteristics of the complete modified circuits.
 - b. Include the following information:
 - 1) Name of panel.
 - 2) Wiring sizes and types.
 - 3) Terminal strip numbers.
 - 4) Terminal identification for device and field connections.
 - 5) Wire tags and labels.
 - 6) Functional name and manufacturer's designation for items to which wiring are connected.
 - 7) Set points for relays and control or alarm contact settings.
 - c. Incorporate equipment manufacturer's Shop Drawing information into the schematic diagrams in order to document the entire control system.
3. Loop drawings:
- a. Submit loop drawings after an accepted Commissioning Test Reports Submittal as specified in Section 17950 - Commissioning for Instrumentation and Controls.
 - 1) Engineer recommends submitting a sample/template loop drawing for review prior to this Submittal.
 - b. General requirements:
 - 1) Submit loop drawings for every analog, discrete, fieldbus signal, vendor-supplied equipment packages, and control panels.
 - a) Includes monitoring, alarming, interlocks, and control devices.

- 2) Use equipment and instrument tags as depicted on the P&IDs for all Submittals.
- 3) Show and identify each component of each loop or system using requirements and symbols from ISA-5.4.
- 4) Provide drawings for every instrumentation loop system:
 - a) Furnish a separate drawing sheet for each system or loop diagram.
- 5) Nameplates and wire labeling:
 - a) As specified in Section 16075 - Identification for Electrical Systems or as indicated on the Drawings.
- 6) Clearly show modifications to existing circuits:
 - a) Show existing unmodified wiring to clearly depict the functionality and electrical characteristics of the complete modified circuits.
- 7) Provide loop drawings in the format indicated in the Contract Drawings.
- c. Provide a complete index in the front of each bound volume:
 - 1) Index the loop drawings by systems or process areas.
- d. In addition to the ISA-5.4 requirements, show the following details:
 - 1) Functional name of each loop.
 - 2) Reference name, drawing, and loop diagram numbers for any signal continuing off the loop diagram sheet.
 - 3) Show all terminal numbers, regardless of the entity providing the equipment.
 - 4) MCC panel, circuit, and breaker numbers for power feeds to the loops and instrumentation.
 - 5) Terminal assignments associated with every manhole, pull-box, junction box, conduit, and panel through which the loop circuits pass.
 - 6) Show VCP, instrument panel, conduit, junction box, equipment and PCS terminations, termination identification, wire numbers and colors, power circuits, and ground identifications.
 - 7) Cables required for communication requirements.
4. PLC I/O list:
 - a. A complete listing of the PCS system point I/O database:
 - 1) Include for each data point relevant parameters such as range, contact orientation, limits, incremental limits, I/O hardware address, and PLC assignment.
 - 2) Organize on a site-by-site basis and separate by point type.
 - 3) In addition to the active I/O points, list the implemented spare I/O points and the available I/O points remaining on each card, as well as other defined future points specified or shown.
 - 4) Upon completion of the Work, update I/O lists to indicate the final as-built configuration of the systems:
 - a) Organize as-built I/O list on a site-by-site basis, separated by equipment and point type.
5. Control descriptions:
 - a. For each control loop, provide programming logic in the form of a written functional description indicating the operation of the equipment, signals, and controls based on the requirements specified in Section 17100 -

Control Strategies, Section 17101 - Specific Control Strategies and its subsections, and as shown on the P&IDs:

- 1) Start from the specific control strategies provided in the Specifications.
 - a) Maintain same organization and format, and expand/edit the specific control strategies as needed.
 - b) Functional descriptions shall be modified to reflect the actual programming to be implemented in the PLCs.
- 2) Include each function depicted or described in the Contract Documents.
- 3) Include within the control description content:
 - a) Specific requirements.
 - b) Common requirements that pertain in general to all loops.
 - c) Listing ranges, setpoints, timers, values, counter values, etc.
 - d) Manual keyboard entries.
 - e) Entry codes.
 - f) System responses.
 - g) Modes:
 - (1) Startup.
 - (2) Routine and normal operation.
 - (3) Regulation and control.
 - (4) Shutdown under specified modes of operation.
 - (5) Emergency operating shutdown.
6. Instrument datasheets:
 - a. Datasheets provided with the instrument specifications are preliminary and are not complete but are provided to assist with the completion of final instrument datasheets. Additional datasheets may be required.
 - b. Furnish fully completed datasheets for each instrument and component according to ISA-20 Specification Forms for Process Measurement and Control Instruments, Primary Elements and Control Valves.
 - c. Format: Microsoft Word or Microsoft Excel.
 - 1) Features and options that are furnished.
 - d. Provide completed datasheet as specified in the Technical Sections and for each control system component.
7. Instrument installation drawings:
 - a. Provide instrument installation, mounting, and anchoring details for components and assemblies, including access requirements and conduit connection or entry details.
 - b. Each installation shall be identified by the equipment or instrument by tag number.
 - c. Provide certification by the instrument manufacturer that the proposed installation is in accordance with the instrument manufacturer's recommendations and is fully warrantable.
 - d. Provide, at a minimum, the following contents for each detail:
 - 1) Necessary sections and elevation views required to define instrument location by referencing tank, building, or equipment names and numbers, and geographical qualities such as north, south, east, west, basement, first floor, etc.
 - 2) Ambient temperature and humidity where the instrument is to be installed.
 - 3) Corrosive qualities of the environment where the instrument is to be installed.

- 4) Hazardous rating of the environment where the instrument is to be installed.
 - 5) Process line pipe or tank size, service, and material.
 - 6) Process tap elevation and location.
 - 7) Upstream and downstream straight pipe lengths between instrument installation and pipe fittings and valves.
 - 8) Routing of tubing and identification of supports.
 - 9) Mounting brackets, stands, anchoring devices, and sunshades.
 - 10) Conduit entry size, number, location, and delineation between power and signal.
 - 11) NEMA ratings of enclosures and components.
 - 12) Clearances required for instrument servicing.
 - 13) List itemizing manufacturer makes, model numbers, quantities, lengths required, and materials of each item required to support the implementation of the detail.
8. Product data:
 - a. Provide a technical brochure or bulletin (cutsheet) for each instrument or equipment on the Project, labeled with equipment and instrument tags as depicted on the P&IDs.
 - 1) Submit with the corresponding datasheets.
 - 2) Organization: Index product data in the Submittal by systems or loops.
 - b. Engineering data:
 - 1) Test data and performance curves, when applicable.
 - c. Manufacturer's technical reference manuals.
 9. Quality Control Submittals:
 - a. As specified in Section 01756 - Commissioning.
 - b. Manufacturer representative qualifications.
 - c. Manufacturer certificates.
 - d. Test Plans.
 - e. Test Reports.
 10. Owner Training Submittals.
 - a. As specified in Section 01756 - Commissioning.
 11. Operation and maintenance manuals:
 - a. As specified in Section 01782 - Operation and Maintenance Manuals.
 - b. Organize the operation and maintenance manuals for each process in the following manner:
 - 1) Section A - Process and Instrumentation Diagrams.
 - 2) Section B - Control Panel Drawings.
 - 3) Section C - Schematics and Wiring Diagrams.
 - 4) Section D - Loop Drawings.
 - 5) Section E - Network Diagrams.
 - 6) Section F - PLC I/O List.
 - 7) Section G - Control Descriptions.
 - 8) Section H - Instrument Datasheets.
 - 9) Section I - Instrument Installation Drawings.
 - 10) Section J - Product Data.
 - 11) Section K - Sizing Calculations.
 - 12) Section L - Test Results.
 - 13) Section M - Operational Manual.
 - 14) Section N - Spare Parts List.

1.06 QUALITY ASSURANCE

- A. Manufacture instruments at facilities certified to the quality standards of ISO 9001.
- B. Provide equipment listed by and bearing the label of UL or of an independent testing laboratory acceptable to the Engineer and the Authority Having Jurisdiction.
- C. ICSC must have their own operating UL listed panel fabrication facility.
 - 1. Panels must be fabricated at this facility and meet UL 508/508A requirements.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Upon receipt of instruments in the field:
 - 1. Outside of the package: Prominently display tag number identification.
 - 2. On each instrument: Provide a nameplate as specified in this Section.

1.08 PROJECT OR SITE CONDITIONS

- A. Equipment is to be suitable for performance in a wastewater treatment plant environment, outdoors and under the following conditions:
 - 1. Ambient Temperatures: -15 to 95 degrees Fahrenheit.
 - 2. Relative Humidity: 10 to 100 percent.
 - 3. Site Elevation: Approximately 6,300 feet above mean sea level.
- B. Area classifications:
 - 1. Furnish enclosures that match the area classifications noted below.

PART 2 PRODUCTS

2.01 GENERAL

- A. Furnish meters, instruments, and other components that are the most recent field proven models marketed by their manufacturers at the time of Submittal of the Shop Drawings unless otherwise specified to match existing equipment.

2.02 DESIGN AND PERFORMANCE CRITERIA

- A. Non-conditioned spaces:
 - 1. Provide additional temperature conditioning equipment to maintain equipment in non-conditioned spaces subject to these ambient temperatures, with a band of 10 degrees Fahrenheit above the minimum operating temperature and 10 degrees Fahrenheit below maximum operating temperature, as determined by the equipment manufacturer's guidelines.
- B. Outdoor installations:
 - 1. Provide electrical, instrumentation and control equipment suitable for operation in the ambient conditions where the equipment is located.
 - 2. Provide heating, cooling, and dehumidifying devices incorporated into and included with electrical equipment, instrumentation and control panels to

maintain the enclosures within the rated environmental operating ranges as specified in the Sections for the equipment.

C. This facility includes classified areas:

1. Provide enclosures suitable for the area classification as follows:

PLANT AREA	ENVIRONMENT W=WET D=DRY C=CLEAN/DRY X=CORROSIVE H=HAZARDOUS	NEMA ENCLOSURE TYPE	EXPOSED CONDUIT TYPE	SUPPORT MATERIALS
Bioreactors	H, X	NEMA 7 within classified envelope; 4X otherwise	PCS	316 SS
Notes: Outdoor classified areas require dual rating of NEMA 4X and 7.				

2. Where suitable enclosures are not available, utilize other methods such as intrinsic safety barriers.

D. Unless otherwise specified, furnish individual instruments that have a minimum accuracy of within 0.5 percent of full scale and a minimum repeatability of within 0.25 percent of full scale.

E. Furnish current version of software unless specifically noted in the Contract Documents.

1. Use of an older version to maintain functionality of an existing system is acceptable with written permission from the Engineer.
2. Equipment or software with limited support or end of life with the vendor is not acceptable.

F. Discrete circuit configuration:

1. Configure discrete control circuits to fail safe, on loss of continuity, or loss of power.
2. Alarm contacts: Fail to the alarm condition.
3. Control contacts: Fail to the inoperative condition unless otherwise indicated on the Drawings.

G. Grounding:

1. Analog signal cables shields shall only be grounded at a single point in the loop. Unless otherwise noted, ground signal cable shields at control panel.
2. For communication and data line signal cable shields and drain wires should be grounded at both ends of the cable.
3. Insulate the shielding and exposed drain wire for each signal cable with heat-shrink tubing.
4. Terminate the signal cable shield on a dedicated grounding terminal block.

5. Provide isolating amplifiers within control panels for field equipment possessing a grounded input or output, except when the panel circuit is galvanically isolated.
- H. Terminal blocks:
1. Schematics do not reflect the actual conductor routing. Add intermediate terminal in enclosures and equipment as needed based on the actual conductor routing.
- I. Signal transmission:
1. Analog signals:
 - a. Furnish analog measurements and control signals that vary in direct linear proportion to the measured variable, unless otherwise indicated.
 - b. Furnish electrical analog signals outside control panels that are 4 to 20 mA 24 VDC, except as indicated.
 - c. Electrically or optically isolate analog signals from other signals.
 - d. Furnish regulated analog signals that are not affected by changes in supply voltage or load resistance within the unit's rating.
 - e. Maintain the total 4 to 20 mA loop impedance to 10 percent below the published value at the loop operating voltage.
 - f. Where necessary, reduce loop impedance by providing current-to-current (I/I) isolation amplifiers for signal re-transmission.
 2. Pneumatic signals: 3 to 15 pounds per square inch gauge.
 3. Discrete input signals: As indicated in the controller hardware specification.
 4. Discrete output signals:
 - a. Dry contacts or TRIAC outputs (with express written approval by the Engineer) as needed to coordinate with the field device.
 - b. Provide external terminal block mounted fuse with blown fuse indication for discrete outputs.
 - c. Provide interposing relays for discrete outputs for voltage and/or current compatibilities.
 - d. Provide interposing relays as required for functionality of the control circuit.
 5. Signal performance and design criteria:
 - a. Stability:
 - 1) After controls have taken corrective action, oscillation of the final control element shall not exceed 2 cycles per minute or a magnitude of motion of 0.5 percent of full travel.
 - b. Response:
 - 1) Any change in setpoint or controlled variable shall produce a corrective change in position of the final control element and stabilized within 30 seconds.
 - c. Agreement:
 - 1) Setpoint indication of controlled variable and measured indication of controlled variable shall agree within 3 percent of full scale over a 6:1 operating range.
 - d. Repeatability:
 - 1) For any repeated magnitude of control signal, from either an increasing or decreasing direction, the final control element shall take a repeated position within 0.5 percent of full travel regardless of force required to position the final element.

- e. Sensitivity:
 - 1) Controls shall respond to a setpoint deviations and measured variable deviations within 1.0 percent of full scale.
- f. Performance:
 - 1) Instruments and control devices shall perform in accordance with the manufacturers' specifications.

2.03 ACCESSORIES

- A. Provide flow conditioning devices or other required accessories as needed to meet the accuracy requirements in the Contract Documents.

PART 3 EXECUTION

3.01 EXAMINATION (NOT USED)

3.02 PREPARATION (NOT USED)

3.03 INSTALLATION

- A. PCIS configurations are diagrammatic:
 - 1. Locations of equipment are approximate unless dimensioned.
 - 2. Where Project conditions require, make reasonable changes in locations and arrangements.
- B. Field instruments installation:
 - 1. As specified in the Contract Documents, API RP 550 and RP 551, and the manufacturer's instructions.
 - 2. Mount field instruments so that they can be easily read, readily approached, and easily serviced, and so they do not restrict access to mechanical equipment:
 - a. Mount on a pipe stand or local panel, if they are not directly mounted, unless otherwise indicated on the Drawings.
 - b. Provide sun shields for field electronic instruments, panels, and enclosures located outdoors. Sun shields shall include standoffs to allow air gap between shield and equipment.
 - c. Orient LED, LCD, or other readout screens north to minimize sun glare and reduce potential of sun damage.
 - 3. Make connections from rigid conduit systems to field instruments with PVC coated flexible conduit:
 - a. Type of flexible conduit required for the area classification:
 - 1) As specified in Section 16050 - Common Work Results for Electrical.
 - b. Maximum length of 18 inches.
 - 4. Connect field instruments with cable as specified in the electrical Specifications, except when the manufacturer requires the use of special cable, or otherwise specified in this Section:
 - a. Special cable applications shall be in accordance with the NEC.
 - 5. Verify the correctness of each installation:
 - a. Polarity of electric power and signal connections.
 - 6. Ensure process connections are free of leaks.

- C. Process sensing lines and air tubing:
 - 1. Install individual tubes parallel and/or perpendicular to and near the surfaces from which they are supported.
 - 2. Provide supports for rigid tubing at intervals of not more than 3 feet.
 - 3. Slope horizontal runs of instrument tubing at a minimum of 1/16 inch per foot to allow for draining of any condensate.
 - 4. Bends:
 - a. Make bends for parallel lines symmetrical.
 - b. Make bends without deforming or thinning the walls of the tubing.
 - 5. Square-cut and clean ends of tubing before being inserted in the fittings.
 - 6. Provide bulkhead fittings at panels requiring pipe and/or tubing entries.
 - 7. Use stainless steel tubing for piping hard piped from the air header, unless otherwise indicated on the Drawings or not compatible with the fluids or atmosphere in the area:
 - a. Use flexible connections only on moving equipment and under the constraint that the length shall be less than 1.5 times maximum travel of the equipment.
- D. Cable and conductor termination:
 - 1. Terminate cables and conductors on terminal blocks.
 - 2. Terminal block enclosures:
 - a. Suitable for the area classification as specified in Section 16050 - Common Work Results for Electrical.
- E. Equipment replacement:
 - 1. Connect new devices to the existing PCIS as indicated in the Drawings.
 - 2. Provide configuration updates for data exchange or I/O modifications required for a fully functional system.
 - 3. Perform testing on new device and associated existing components of the PCIS as specified in Section 17950 - Commissioning for Instrumentation and Controls.
- F. Surge protection:
 - 1. Provide outdoor field instrument loops with voltage surge protection units installed on the instruments and the panel.
 - 2. Individually fuse each 4 to 20 mA DC loop with a 1/2-amp fuse between power supplies and receiver surge protectors.
 - 3. Provide voltage surge protection for 4-wire transmitters and analyzers:
 - a. Protect both power source and signal loop.

3.04 RE-INSTALLATION

- A. Existing instrumentation:
 - 1. Clean, recondition, and re-calibrate each existing instrument to be reused, removed, or reinstalled using an authorized service facility of the instrument manufacturer.
 - 2. Provide certification of this Work before reinstallation of each instrument.

3.05 COMMISSIONING

- A. As specified in Section 01756 - Commissioning.

3.06 FIELD QUALITY CONTROL

- A. Functional Testing:
 - 1. As specified in Section 17950 - Commissioning for Instrumentation and Controls.
 - 2. Assist with troubleshooting and correcting instrumentation and control issues.

3.07 ADJUSTING

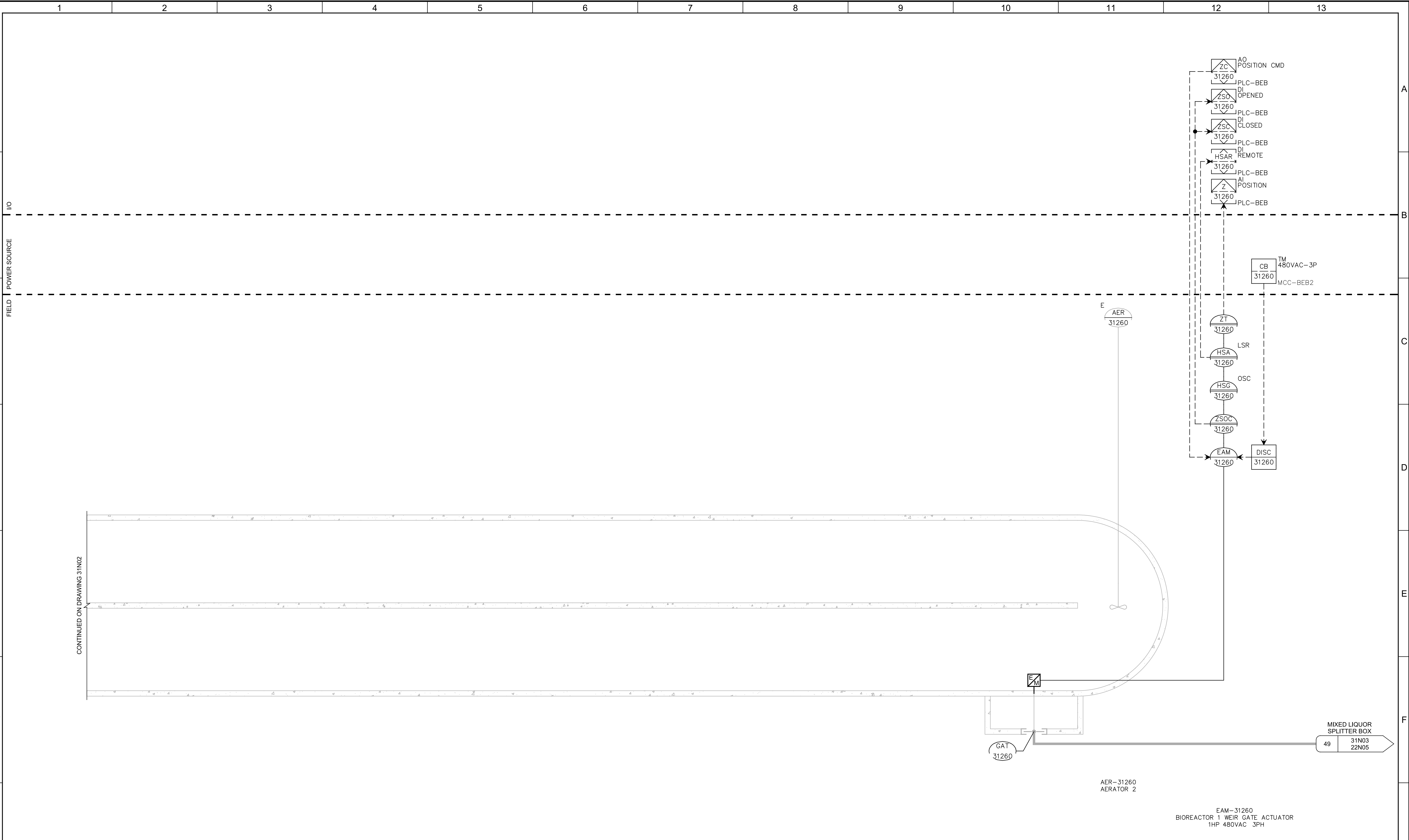
- A. Control valves:
 - 1. Stroke control valves, cylinders, drives and connecting linkages from the control system as well as local control devices and adjust to verify proper control action, hand switch action, limit switch settings, torque settings, remote control actions, and remote feedback of valve status and position.
 - 2. Check control valve actions and positioner settings with the valves in place to ensure that no changes have occurred since the bench calibration.
- B. Make revisions necessary to the control system software, as directed by the Engineer.
 - 1. It is understood that the Contractor knows and agrees that changes will be required in the control system software during Commissioning.

3.08 CLEANING

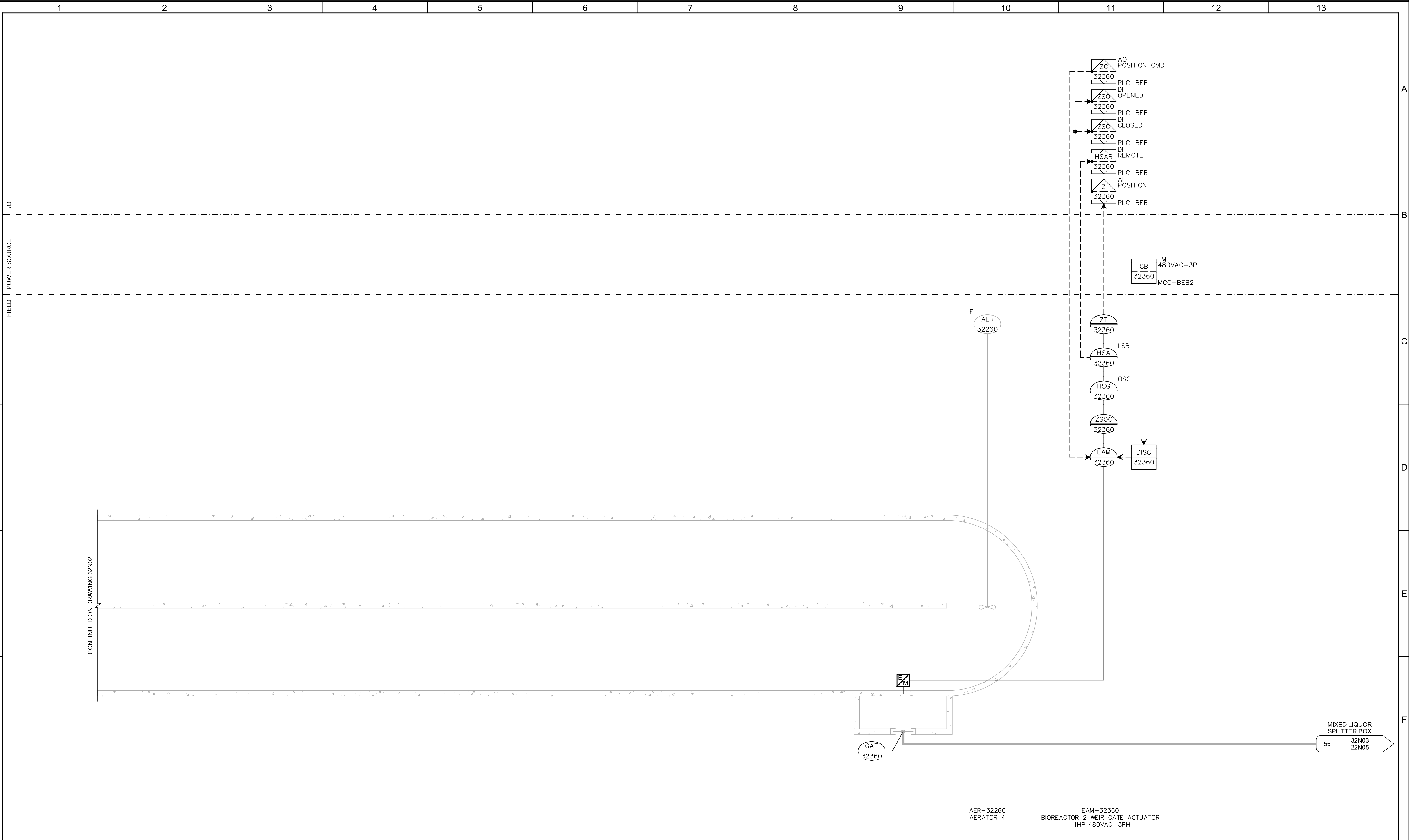
- A. Oxygen service devices, including piping, valves, and appurtenances shall be cleaned for oxygen service and certified by a qualified inspector prior to placing into service.
- B. Vacuum clean control panels and enclosures before process start-up and again after final completion of the Project.
- C. Clean panel surfaces.
- D. Return to new condition any scratches and/or defects.
- E. Wipe instrument faces and enclosures clean.
- F. Leave wiring in panels, manholes, boxes, and other locations in a neat, clean, and organized manner:
 - 1. Neatly coil and label spare wiring lengths.
 - 2. Shorten, re-terminate, and re-label excessive spare wire and cable lengths, as determined by the Engineer.

END OF SECTION

APPENDIX A - DRAWINGS



				DESIGNED MGH					SNYDERVILLE BASIN WATER RECLAMATION DISTRICT	VERIFY SCALES	JOB NO. 10841B.10	G
				DRAWN ESW					EAST CANYON WATER RECLAMATION FACILITY EXPANSION	BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO.	
				CHECKED CDS					INSTRUMENTATION	0 = 1"	31N03	
				DATE SEPTEMBER 2023					BIOREACTOR 1 P&ID 3	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO.	
REV	DATE	BY	DESCRIPTION								OF	



				DESIGNED MGH						SNYDERVILLE BASIN WATER RECLAMATION DISTRICT		VERIFY SCALES	JOB NO. 10841B.10	G			
				DRAWN KIK											EAST CANYON WATER RECLAMATION FACILITY EXPANSION	BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO.
				CHECKED CDS												0 1"	32N03
				DATE SEPTEMBER 2023												IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. OF
REV	DATE	BY		DESCRIPTION						INSTRUMENTATION BIOREACTOR 2 P&ID 3							

APPENDIX B - EXISTING EQUIPMENT PRODUCT DATA AND ASSEMBLY DRAWINGS

EIM JOB SPEC SHEET

Job No: 63022A

Entry Form: MKR Entered: JR 03/29/01

Customer: H. FONTAINE
P. O. No: 5462

Rev: ORG

Date: 04/19/01

P.O. Item No: 1

Project: EAST CANYON, UT

Valve Data

Manufacturer: H. FONTAINE
Size: 156 X 48
Type: GATE
Torque(ft-lb): 55

Actuator Data

Quantity: 1
EIM Model No: DDSA-3
Outline Dwg: D-0001/10G
Assembly Dwg: 84199D-1
84199D-2
Instruction: Tech Manual
Enclosure: Watertight NEMA 4/IP66
Enclosure: FM C I, II, III Div 1
Grps. D, E, F, G
RPM Out: 060
Torque Spring: 83464-1 Purple
Motor Gears: 34918/34919
Handwheel Gears: 34922/34543
Drive Sleeve/Worm: 35519-2R 48:2R
Lubrication: #221 Moly 800 E.P.
Nameplate: 36302 WP, XP (FM: D,E,F,G)

Electrical Data

Wiring Diagram: *63022
Power Voltage: 460 Vac, 3 phase, 60 Hz
M2CP Frame: 84108-4AF 4T-4G (10T)
N Number: 0383
Transformer: 84143-3 (460/115,12&18V)
Contactor: 84045 Assy
Motor Protection: OL Relay 84138-B22(1.5-2.
LSM: 84112-01B
Position Switches: LSC,LSO,LSA&LSB(16Contact
Torque Switches: TSC & TSO
Space Heater: 1500 Ohm, 25W (115V)
Pushbuttons: Open-Stop-Close
Selector Switch: Local(hand)-Off-Rem(auto)
Position Lights: Close(green), Open(red)
Lamp No. 3: Power On (no lens)
TBM: 84136
Lamp No. 4: Over Torque (no lens)
FMC Futronic: IV 84238 FMC
Potentiometer: 1000 Ohm, 84057-1
MDPI gear assy: 84451-0383
Pot input gear: 36462-24
Pot. Input Shaft: P4042-90
Cover Assembly: 84350-01S
Control Functions: Position Seat (no G to H
jumper on LSM), Momentary
P.B. (jumper 5 to 6 on TB
36539 Thermostat
Thermostat: Space Heater
T/S Shaft Rotates: CW To Close
Loss Of Signal: Valve Does Not Move

Valve Stem Data

Dimensions - Inches
Diameter (inches): 1.188
Key: (1) 0.001 X 0.001
Turns-Full Stroke: 288.000
Stroke Time (Sec): 288
Output Rotation: CCW To Close

Motor Data

Horsepower: 1/2
RPM: 1725
Volts: 460 Vac
Hertz: 60
Phase: Three
Run Amps (15 min): 2.0
Amps (max): 30.0
Motor Part No.: 9C4603FC-D

Additional Accessories, Services & Notes:

Torque Switches:

Dial Setting	2	3	4	5	6	7	8	9	10
Ft-lb Output:	30	36	43	49	55	61	68	74	

Approximate only. Actual torque requires test by dynamometer.

Notes: Customer Tag No(s)
2011331-031

Valve Adaption: Not Ordered From EIM

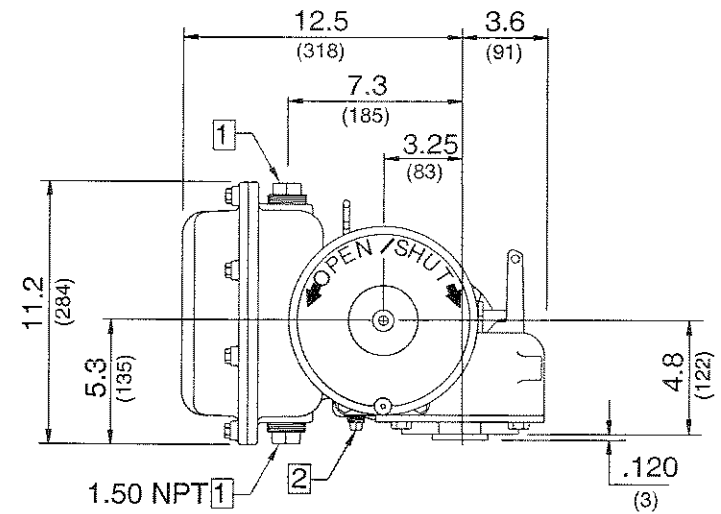
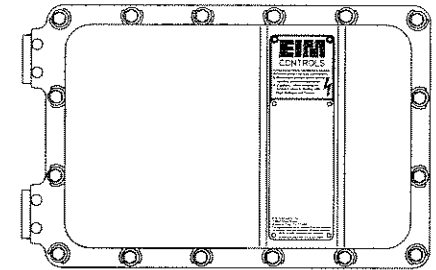
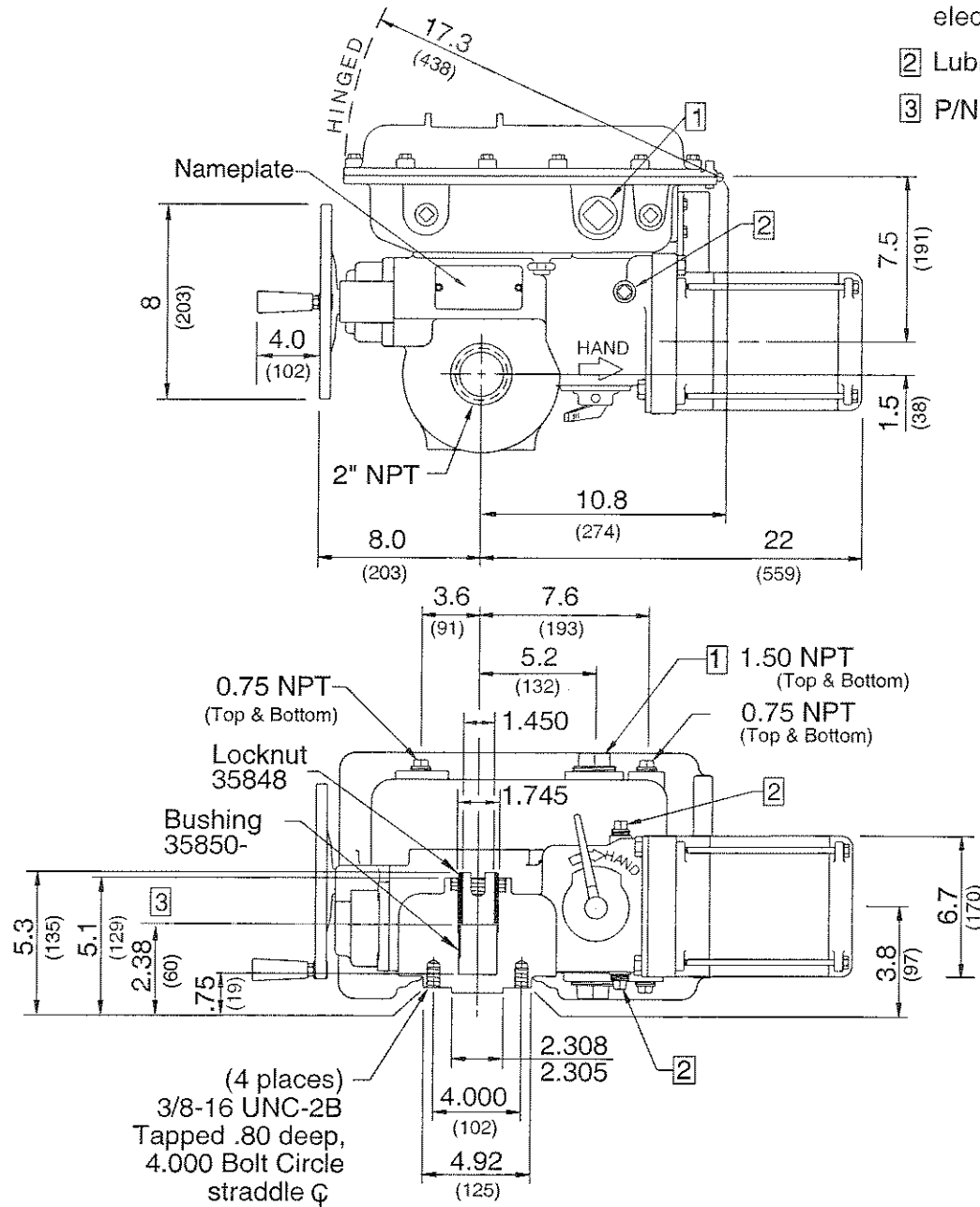
Bore & Key Bushing: By Others (Ship 35850 Blank With Actuator)

Special Notes: Caution-Actuator Handwheel Turns CCW TO Close Valve
Due To Non-Standard Opening Direction

1 1.50-11.5 NPT (2 places) is preferred wire entry. **CAUTION** Conduit must enter at lowest point to prevent water from entering electrical enclosure due to condensation. If hazardous location, conduit seal required at electrical enclosure entrances.

2 Lubrication 0.50-14 NPT plugs.

3 P/N 35850 Bushing. Maximum bore stem size is 1.25" (1/4" Sq Key)



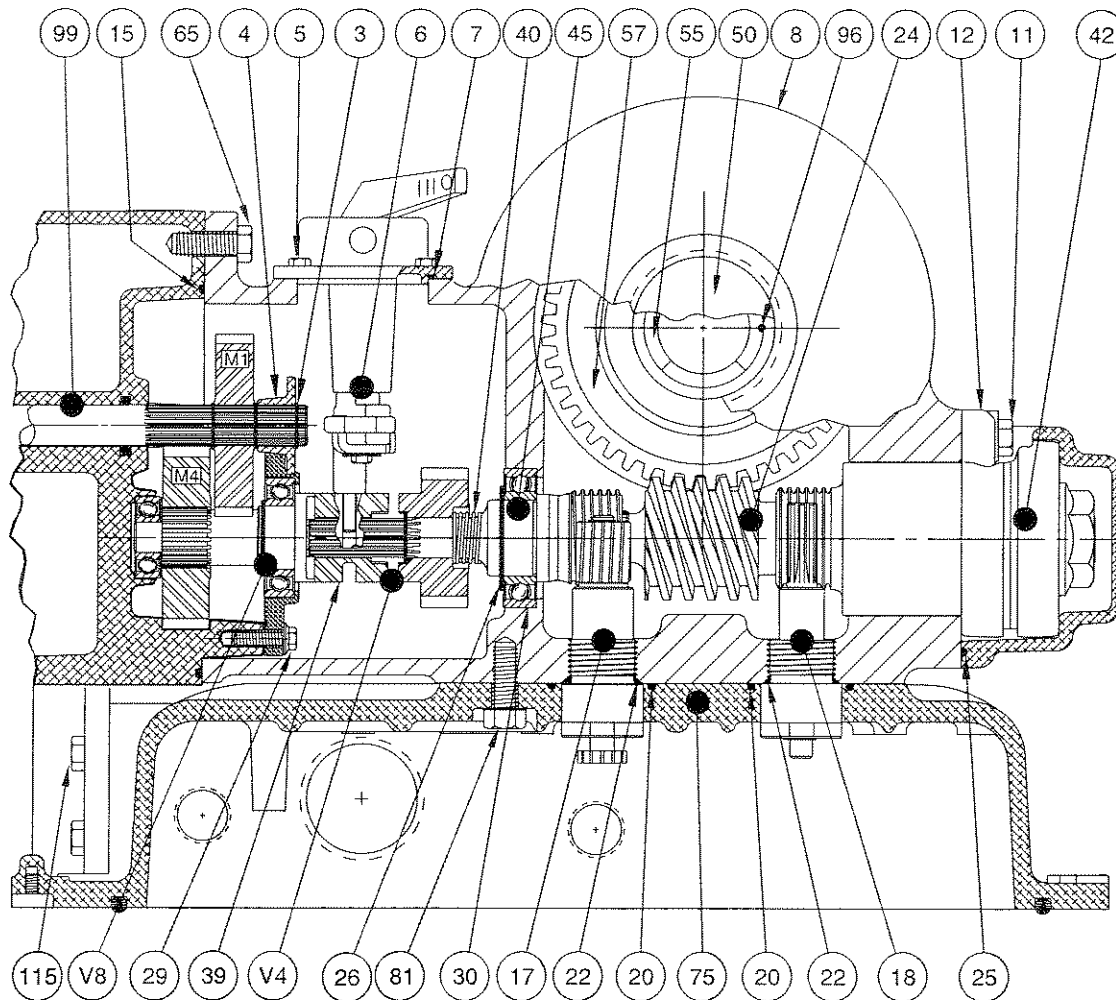
INCHES .XXX ± .005"
(MILLIMETERS) .XX ± .020"
.X APPROX.

EIM COMPANY, INC.
13840 PIKE ROAD
CONTROLS MISSOURI CITY, TX 77489

Type D M/T 4.00

REV	DATE	ERO	BY	OUTLINE NO.	D-0001/10G	REV
A	7/18/97		/CML			A

ERO 12106



Item	Qty	Code	Part No.	Description
V4	1	CB10	P3460-	* H/W GEAR PARTS
V8	1	CB15	83638-	* MTR GEAR RTN ASSY
M1	1	SO15	-	* MTR GEAR
M2	1	SO15	-	* MTR GEAR
M3	1	SO15	-	* MTR GAER
M4	1	SO15	-	* MTR GEAR

Notes:

- * Variable Parts:
Refer to EIM JOB SPEC SHEET for specific parts for each actuator serial number.
- Code is Material Description and is not required for ordering of spare or maintenance parts.

PD000-1 D BASIC PARTS

Item	Qty	Code	Part No.	Description
3	4	R001	4060001059	RTN 5100-59
4	1	CA01	35735	56 CLUTCH CAM
5	4	S10/3S	34094	THWS 10-24 X .48
6	1	CB01	83339	P/S CLUTCH ASSY
7	1	SE01	4045203317	O-RNG 568-033-70D
8	1	CI03	35505-1	MAIN HOUSING
9	3	S011	3000600885	PLUG 1/2 NPT
11	4	S11/6S	4042533049	HHCS 3/8-16 X 1.25 SS
12	1	CA01	34873-1	TORQUE SPRING CVR
15	1	SE01	4045216317	O-RNG 568-163-70D
17	1	CB02	83730	G/L PINION ASSY
18	1	CB02	83729	TQ LIMIT GEAR ASSY
20	2	SE01	4045212817	O-RNG 568-128-70D
22	2	SE01	4045202117	O-RNG 568-021-70D
23	1	SE01	4045222817	O-RNG 568-228-70D
24	1	CB03	P3643-	* WORM ASSEMBLY
25	1	SE01	4045215417	O-RNG 568-154-70D
29	3	S12/4	4042520020	HHWLS 1/4-20 x 1.00"
31	1	SE01	4045222817	O-RNG 568-228-70D
33	1	BR06	35009	FLANGED BEARING
34	1	CB04	83422	H/W SHAFT ASSY
36	1	CB05	83787-8	* HANDWHEEL ASSY
41	1	CI03	35506-10	MOUNTING BASE
42	1	CB06	P3439-	* TORQUE SPG PARTS
43	2	B002	4000500114	THRUST/BRG CONE
44	2	B002	4000500113	THRUST/BRG CUP
45	1	CB07	83631	CLUTCH SHAFT ASSY
47	1	S12/4	4042520012	HHWLS 1/4-20 X .75
49	1	R002	4060012059	RTN 5108-59 SS
50	1	P003	3000603156	2" NPT TEMP PLUG
52	1	S012	4101801814	STEM NUT KEY
54	1	S006	35850	* BUSHING
55	1	CI03	35848	LOCKNUT
56	1	SE01	4045205017	O-RNG 568-050-70D
57	1	BR02	35519-	* DRIVE SLEEVE (2 PC)
62	2	S11/6S	4042533052	HHCS 3/8-16 x 2.0 SS
65	2	S11/6S	4042533049	HHCS 3/8-16 x 1.25 SS
66	1	S22/6	4042209315	SHSS 3/8-16 x 1/2
75	1	CB08	83741	* MCP BASE ASSY
76	1	CB08	83768-	* MCP ELECTRIC CVR
76	1	CB08	84081-	* M2CP ELECTRIC CVR
81	4	CB17	35890	HHCS-N-S 3/8-16 X 1.0
96	1	PS01	4043000071	LOCKNUT SPRING PIN
97	4	S11/8S	4042533084	HHCS 1/2-13 X .75 SS
99	1	CB09	P3803-	* MOTOR ASSEMBLY
103	2	SE01	4045202117	O-RNG 568-021-70D
104	1	-	36806-1	HANDWHEEL SEAL
105	1	SE09	36811	HW SEAL (.671 ID)
106	1	SE01	4045200817	O-RNG 568-008-70D
107	1	-	36793	HANDWHEEL COVER
47	4	S11/4S	4042533004	* HHWS 1/4-20 X .75 SS

OWN
LHE/CL
1/14/97

CRG DATE

APRD

REVISED DATE

5/3/99

EIM COMPANY, INC.
13840 PIKE ROAD
MISSOURI CITY, TX 77489

Assembly Drawing

DESCRIPTION

Type D (Ductile) Basic

PAGE

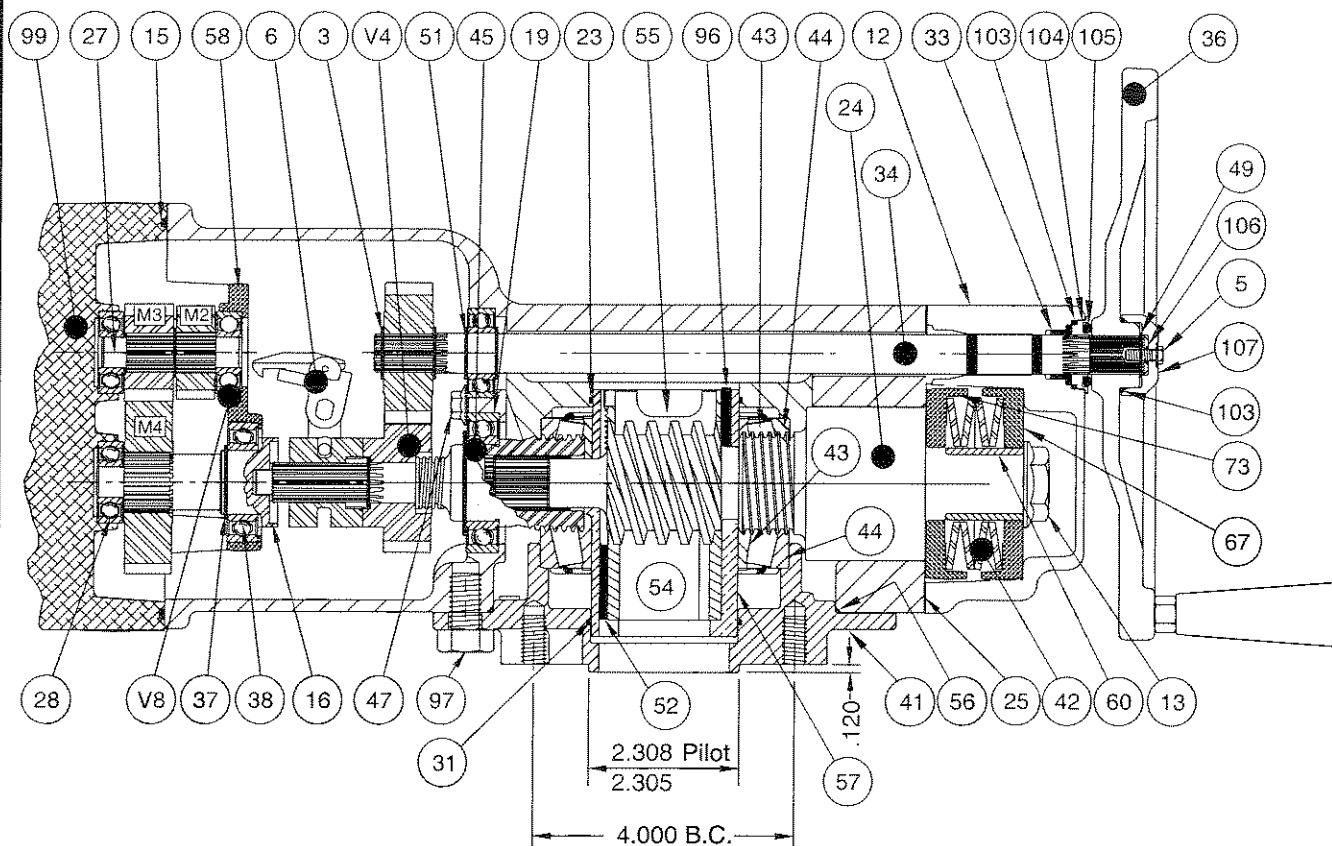
NUMBER

1 of 2

84199-(D)

REV

B



PD-00-48/10 D 48:1R 4.00"

Part No.	Description
PD000-1	D BASIC PARTS
35519-1R	1000 48:1R DR/SLV

PD-00-24/10 D 48:2R 4.00"

Part No.	Description
PD000-1	D BASIC PARTS
35519-2R	1000 48:2 DR/SLV

PD-00-12/10 D 48:4R 4.00"

Part No.	Description
PD000-1	D BASIC PARTS
35519-4R	1000 48:4R DR/SLV

Assembly Notes:

Bolting between EIM actuator and valve flange are subject to fatigue from dynamic loading.

Bolts should be similar to Socket Head Cap Screws, high grade alloy steel, heat-treated and tempered, 170,000 psi tensile strength min. Mounting bolts should be lightly oiled.

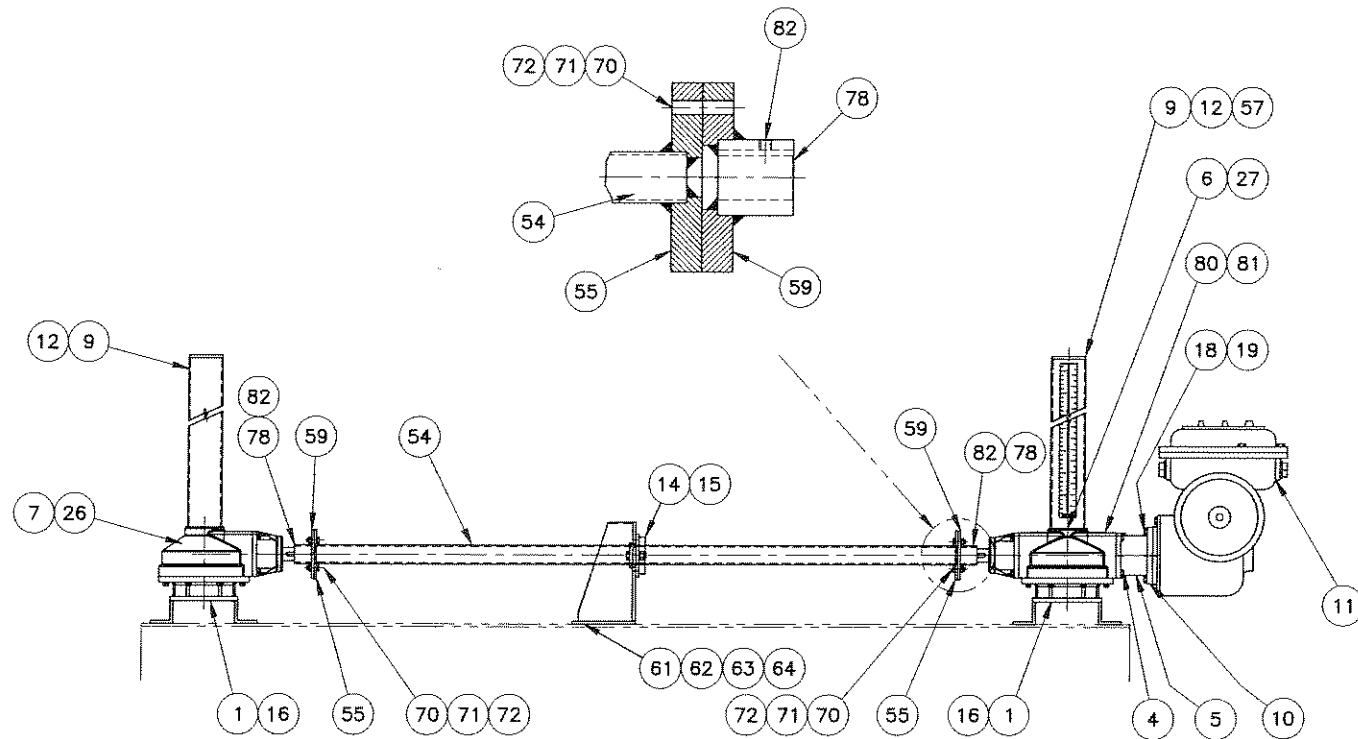
Mounting bolts for -10, 4.00" Bolt Circle shall be 3/8-16 UNC. The tightening torque shall be 50 ft-lb.

EIM COMPANY, INC.
 13840 PIKE ROAD
 MISSOURI CITY, TX 77489
 LHE/CL 1/14/97
 5/3/99

Assembly
 Drawing

DESCRIPTION
 Type D (Ductile) Basic
 PAGE 2 of 2
 NUMBER 84199-(D)
 REV B

OPERATOR



OPERATOR

<i>ITEM NUMBER</i>	<i>DESCRIPTION</i>	<i>COMMENTS</i>
1 / 63 / 72	S.S. HX HD CS	
4 / 10 / 55 / 59	S.S. PLATE	
5 / 78	S.S. ROUND BAR	
6 / 7	TENZ-AL GEARBOX ASSEMBLY	
9	POLYCARBONATE TUBE	
11	ELECTRIC OPERATOR DDSA-3 60 RPM	
12	INDICATOR TUBE COVER	
14	S.S. ADJ. STEM GUIDE	
15	UHMW GUIDING BUSH STEM	
16 / 19 / 61 / 70	S.S. LOCK WASHER	
18	S.S. HX SKT HD CS	
26 / 27	BRZ-MAN GEARBOX NUT	
54	S.S. PIPE	
57	TRANSPARENT MYLAR RULER	
62 / 71	S.S. HEX NUT	
64	S.S FLAT WASHER	
80	ALUM. RATIO 4:1 INDIC. PLATE INV. OP.	
81	S.S. DRIVE RIVET	
82	S.S. HX SKT SET SCREW	