



Purchasing Division

Invitation for Bid

IFB-5107-22-DD

Persigo Wastewater Treatment Plant –
Floating Mechanical Aerators/Mixers (Purchase Only)

Responses Due:

September 30, 2022 prior to 2:00 PM (MDT)

Accepting Electronic Responses Only
Responses Only Submitted Through the Rocky Mountain E-
Purchasing www.bidnetdirect.com/colorado

(Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. 800-835-4603)

Purchasing Representative:

Dolly Daniels, Senior Buyer

dollyd@gjcity.org

Phone (970) 256-4048

NOTE: All City solicitation openings will continue to be held virtually.

This document has been developed specifically to solicit competitive responses for this solicitation and may not be the same as previous City of Grand Junction solicitations. All vendors are urged to thoroughly review this solicitation prior to responding. Submittal by **FAX, EMAIL or HARD COPY IS NOT ACCEPTABLE** for this solicitation.

Invitation for Bids

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1. Instructions to Bidders

- 1.1. **Purpose:** The City of Grand Junction is soliciting competitive bids from qualified and interested companies for all labor, equipment, and materials required to provide and deliver **six (6) new electric motor-driven air assist propeller-type, or rotor-type, floating aerator/mixers for the Persigo Wastewater Treatment Plants (WWTP) Flow Equalization (FE) Basins.** All dimensions and scope of work should be verified by Bidders prior to submission of bids.

The City would like to remind all Contractors, Sub-Contractors, Vendors, Suppliers, Manufacturers, Service Providers, etc. that (with the exception of Pre-Bid or Site Visit Meetings) all questions, inquiries, comments, or communication pertaining to any formal solicitation (whether process, specifications, scope, etc.) must be directed (in writing) to the Purchasing Agent assigned to the project or Purchasing Division. Direct communication with the City assigned Project Managers/Engineers is not appropriate for public procurement and may result in disqualification.

- 1.2. **The Owner:** The Owner is the City of Grand Junction, Colorado and is referred to throughout this Solicitation. The term Owner means the Owner or his authorized representative.
- 1.3. **Procurement Process:** Procurement processes shall be governed by the most current version of the City of Grand Junction [Purchasing Policy and Procedure Manual](#).
- 1.4. **Submission:** **Each bid shall be submitted in electronic format only, and only through the Rocky Mountain E-Purchasing website www.bidnetdirect.com/colorado**. *This site offers both “free” and “paying” registration options that allow for full access of the Owner’s documents and for electronic submission of proposals. (Note: “free” registration may take up to 24 hours to process. Please Plan accordingly.)* Please view our “**Electronic Vendor Registration Guide**” at <https://www.gjcity.org/501/Purchasing-Bids> for details. (Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. **800-835-4603**)

Persigo WWTP Floating Mechanical Mixers Bid Opening IFB-5107-22-DD
Sep 30, 2022, 2:00 – 2:30 PM (America/Denver)

Please join my meeting from your computer, tablet or smartphone.
<https://meet.goto.com/118448725>

You can also dial in using your phone.
Access Code:
118-448-725
United States:
[+1 \(312\) 757-3121](tel:+13127573121)

Join from a video-conferencing room or system.

Meeting ID:
118-448-725
Dial in or type:
67.217.95.2 or inroomlink.goto.com
Or dial directly:
118448725@67.217.95.2 or 67.217.95.2##118448725

Get the app now and be ready when your first meeting starts:

<https://meet.goto.com/install>

- 1.5. **Printed Form for Price Bid:** All Price Bids must be made upon the Bid Form attached and should give the amounts both in words and in figures and must be signed and acknowledged by the bidder.
- 1.6. **Exclusions:** No oral, telephonic, emailed, or facsimile bid will be considered
- 1.7. **Contract Documents:** The complete IFB and bidder's response compose the Contract Documents. Copies of these documents can be obtained from the City Purchasing website, <https://www.gjcity.org/501/Purchasing-Bids>.
- 1.8. **Examination of Specifications:** Bidders shall thoroughly examine and be familiar with the project Statement of Work. The failure or omission of any Bidder to receive or examine any form, addendum, or other document shall in no way relieve any Bidder from any obligation with respect to his bid. The submission of a bid shall be taken as evidence of compliance with this section.
- 1.9. **Questions Regarding Statement of Work:** Any information relative to interpretation of Scope of Work or specifications shall be requested of the Purchasing Representative, in writing, in ample time prior to the response time.
- 1.10. **Addenda & Interpretations:** All Questions shall be submitted in writing to the appropriate person as shown in Section 1.1. Any interpretations, corrections and changes to this solicitation or extensions to the opening/receipt date shall be made by a written Addendum to the solicitation by the Owner. Sole authority to authorize addenda shall be vested in the Purchasing Representative. Addenda will be issued electronically through the Rocky Mountain E-Purchasing website at www.bidnetdirect.com/colorado. Bidders shall acknowledge receipt of all addenda in their response and are solely responsible for obtaining all solicitation documents.
- 1.11. **Taxes:** The Owner is exempt from State retail and Federal tax. The bid price must be net, exclusive of taxes.
- 1.12. **Offers Binding 60 Days:** Unless otherwise specified, all formal offers submitted shall be binding for sixty (60) calendar days following opening date, unless the Bidder, upon request of the Purchasing Representative, agrees to an extension.
- 1.13. **Collusion Clause:** Each bidder by submitting a bid certifies that it is not party to any collusive action or any action that may be in violation of the Sherman Antitrust Act. Any and all bids shall be rejected if there is evidence or reason for believing

that collusion exists among bidders. The Owner may, or may not, accept future bids for the same services or commodities from participants in such collusion.

- 1.14. **Public Disclosure Record:** If the bidder has knowledge of their employee(s) or sub-contractors having an immediate family relationship with an Owner employee or elected official, the bidder must provide the Purchasing Representative with the name(s) of these individuals. These individuals are required to file an acceptable "Public Disclosure Record", a statement of financial interest, before conducting business with the Owner.
- 1.15. **Public Opening:** Responses shall be opened virtually immediately following the proposal deadline. Offerors, their representatives and interested persons may be present. Only the names and locations on the proposing firms will be disclosed.

2. General Contract Conditions

- 2.1. **The Contract:** This Invitation for Bid, submitted documents, and any negotiations, when properly accepted by the Owner, shall constitute a contract equally binding between the Owner and Bidder. The contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements. The contract may be amended or modified with Change Orders, Field Orders, or Amendment(s).
- 2.2. **Execution, Correlation, Intent, and Interpretations:** The Contract Documents and/or Purchase Order shall be signed by the Owner (Owner) and Contractor. Owner will provide the contract/purchase order. By executing the contract/purchase order, the Bidder represents that they have familiarized themselves with the local conditions under which the work is to be performed and correlated his observations with the requirements of the Contract Documents. The Contract Documents are complementary, and what is required by anyone, shall be as binding as if required by all. The intention of the documents is to include all labor, materials, equipment and other items necessary for the proper execution and completion of the scope of work as defined herein. All drawings, specifications and copies furnished by the Owner are, and shall remain, Owner property. They are not to be used on any other project, and with the exception of one contract set for each party to the contract, are to be returned to the owner on request at the completion of the work.
- 2.3. **The Owner:** The Owner is the City of Grand Junction, Colorado and is referred to throughout the Contract Documents. The term Owner means the Owner or his authorized representative. The Owner shall, at all times, have access to the work wherever it is in preparation or progress. The Contractor shall provide facilities for such access. The Owner will familiarize himself generally with the progress and quality of work and to determine, in general, if the work is proceeding in accordance with the contract documents. The Owner will not be responsible for the acts or omissions of the Contractor, and sub-Contractor, or any of their agents or employees, or any other persons performing any of the work.
- 2.4. **Contractor:** The Contractor is the person or organization identified as such in the Agreement and is referred to throughout the Contract Documents. The term

Contractor means the Contractor or his authorized representative. The Contractor shall carefully study and compare the General Contract Conditions of the Contract, Specification and/or Drawings, Scope of Work, Addenda and Modifications and shall at once report to the Owner any error, inconsistency or omission he may discover. Contractor shall not be liable to the Owner for any damage resulting from such errors, inconsistencies or omissions. The Contractor shall not commence work without clarifying Drawings, Specifications, or Interpretations.

2.5. Warranty: The Contractor warrants to the Owner that all materials and equipment furnished under this contract will be new unless otherwise specified, be of good quality, free from faults and defects and in conformance with the Contract Documents. All materials and equipment not so conforming to these standards may be considered defective. If required by Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. If within ten (10) days after written notice to the Contractor requesting such repairs or replacement, the Contractor should neglect to make or undertake with due diligence to the same, the City may make such replacements. All indirect and direct costs of such correction or replacement shall be at the Contractor's expense.

2.6. Insurance Requirements: The selected Contractor agrees to procure and maintain, at its own cost, policy(s) of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by the Contractor pursuant to this Section. Such insurance shall be in addition to any other insurance requirements imposed by this Contract or by law. The Contractor shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to this Section by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types. Contractor shall procure and maintain and, if applicable, shall cause any Subcontractor of the Contractor to procure and maintain insurance coverage listed below. Such coverage shall be procured and maintained with forms and insurers acceptable to the Owner. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage. Minimum coverage limits shall be as indicated below unless specified otherwise:

(a) Worker Compensation: Contractor shall comply with all State of Colorado Regulations concerning Workers' Compensation insurance coverage.

(b) General Liability insurance with minimum limits of:

ONE MILLION DOLLARS (\$1,000,000) each occurrence and
ONE MILLION DOLLARS (\$1,000,000) per job aggregate.

The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, products, and completed operations. The policy shall include coverage for explosion, collapse, and underground hazards. The policy shall contain a severability of interest's provision.

(c) Comprehensive Automobile Liability insurance with minimum limits for bodily injury and property damage of not less than:

ONE MILLION DOLLARS (\$1,000,000) each occurrence and
ONE MILLION DOLLARS (\$1,000,000) aggregate

With respect to each of Contractors owned, hired, or non-owned vehicles assigned to be used in performance of the Work. The policy shall contain a severability of interests provision. The policies required by paragraph (b) above shall be endorsed to include the Owner, and the Owner's officers and employees as additional insureds. Every policy required above shall be primary insurance, and any insurance carried by the Owner, its officers, or its employees, or carried by or provided through any insurance pool of the Owner, shall be excess and not contributory insurance to that provided by Bidder. No additional insured endorsement to any required policy shall contain any exclusion for bodily injury or property damage arising from completed operations. The Bidder shall be solely responsible for any deductible losses under any policy required above.

- 2.7. Indemnification:** The Contractor shall defend, indemnify and save harmless the Owner, and all its officers, employees, insurers, and self-insurance pool, from and against all liability, suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the Contractor, or of any Contractor's agent, employee, sub-contractor or supplier in the execution of, or performance under, any contract which may result from proposal award. Contractor shall pay any judgment with cost which may be obtained against the Owner growing out of such injury or damages.
- 2.8. Miscellaneous Conditions:** Material Availability: Contractors must accept responsibility for verification of material availability, production schedules, and other pertinent data prior to submission of bid. It is the responsibility of the bidder to notify the Owner immediately if materials specified are discontinued, replaced, or not available for an extended period of time. OSHA Standards: All bidders agree and warrant that services performed in response to this invitation shall conform to the standards declared by the US Department of Labor under the Occupational Safety and Health Act of 1970 (OSHA). In the event the services do not conform to OSHA standards, the Owner may require the services to be redone at no additional expense to the Owner.
- 2.9. Time:** The Contract Time is the period of time allotted in the Contract Documents for completion of product/material receipt. The date of commencement of the contract is the date established in the Contract Documents.
- 2.10. Payment & Completion:** The Contract Sum is stated in the Contract and is the total amount payable by the Owner to the Contractor for the products/materials under the Contract Documents. Upon receipt of the products/materials or written notice that the products/materials is ready for final inspection and acceptance and upon receipt of application for payment, the Owner's Project Manager will promptly make such inspection and, when he finds the products/materials acceptable under the Contract Documents and the Contract fully performed, the Owner shall make payment in the manner provided in the Contract Documents.

- 2.11. Protection of Persons & Property:** The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Contractor shall erect and maintain, as required by existing safeguards for safety and protection, and all reasonable precautions, including posting danger signs or other warnings against hazards promulgating safety regulations and notifying owners and users of adjacent utilities. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct by the Contractor in the execution of the Contract, or in consequence of the non-execution thereof, the Contractor shall restore, at their own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or they shall make good such damage or injury in an acceptable manner.
- 2.12. Change Order/Amendment:** No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All Change Orders/Amendments to the contract shall be made in writing by the Owner.
- 2.13. Assignment:** The Contractor shall not sell, assign, transfer or convey any contract resulting from this Solicitation, in whole or in part, without the prior written approval from the Owner.
- 2.14. Cancellation of Solicitation:** Any solicitation may be canceled by the Owner or any solicitation response by a vendor may be rejected in whole or in part when it is in the best interest of the Owner.
- 2.15. Compliance with Laws:** Bids must comply with all Federal, State, County and local laws governing or covering this type of service and the fulfillment of all ADA (Americans with Disabilities Act) requirements.
- 2.16. Confidentiality:** All materials submitted in response to this Solicitation shall ultimately become public record and shall be subject to inspection after contract award. “**Proprietary or Confidential Information**” is defined as any information that is not generally known to competitors and which provides a competitive advantage. Unrestricted disclosure of proprietary information places it in the public domain. Only submittal information clearly identified with the words “**Confidential Disclosure**” and uploaded as a separate document shall establish a confidential, proprietary relationship. Any material to be treated as confidential or proprietary in nature must include a justification for the request. The request shall be reviewed and either approved or denied by the Owner. If denied, the proposer shall have the opportunity to withdraw its entire proposal, or to remove the confidential or proprietary restrictions. Neither cost nor pricing information nor the total response shall be considered confidential or proprietary.
- 2.17. Conflict of Interest:** No public official and/or Owner employee shall have interest in any contract resulting from this Solicitation.
- 2.18. Contract Termination:** This contract shall remain in effect until any of the following occurs: (1) contract expires; (2) completion of work; (3) acceptance of work or, (4)

for convenience terminated by either party with a written *Notice of Cancellation* stating therein the reasons for such cancellation and the effective date of cancellation.

2.19. Employment Discrimination: During the performance of any services per agreement with the Owner, the Contractor, by submitting a response, agrees to the following conditions:

2.19.1. The Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, handicap, or national origin except when such condition is a legitimate occupational qualification reasonably necessary for the normal operations of the Contractor. The Contractor agrees to post in conspicuous places, visible to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

2.19.2. The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, shall state that such Contractor is an Equal Opportunity Employer.

2.19.3. Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

2.20. Immigration Reform and Control Act of 1986 and Immigration Compliance: The Contractor certifies that it does not and will not during the performance of the contract employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986 and/or the immigration compliance requirements of State of Colorado C.R.S. § 8-17.5-101, *et.seq.* (House Bill 06-1343).

2.21. Ethics: The Contractor shall not accept or offer gifts or anything of value nor enter into any business arrangement with any employee, official, or agent of the Owner.

2.22. Failure to Deliver: In the event of failure of the Contractor to deliver products/materials in accordance with the contract terms and conditions, the Owner, after due oral or written notice, may procure the products/materials from other sources and hold the Contractor responsible for any costs resulting in additional purchase and administrative services. This remedy shall be in addition to any other remedies that the Owner may have.

2.23. Failure to Enforce: Failure by the Owner at any time to enforce the provisions of the contract shall not be construed as a waiver of any such provisions. Such failure to enforce shall not affect the validity of the contract or any part thereof or the right of the Owner to enforce any provision at any time in accordance with its terms.

2.24. Force Majeure: The Contractor shall not be held responsible for failure to perform the duties and responsibilities imposed by the contract due to legal strikes, fires, riots, rebellions, and acts of God beyond the control of the Contractor, unless otherwise specified in the contract.

- 2.25. Independent Contractor:** The Contractor shall be legally considered an Independent Contractor and neither the Contractor nor its employees shall, under any circumstances, be considered servants or agents of the Owner. The Owner shall be at no time legally responsible for any negligence or other wrongdoing by the Contractor, its servants, or agents. The Owner shall not withhold from the contract payments to the Contractor any federal or state unemployment taxes, federal or state income taxes, Social Security Tax or any other amounts for benefits to the Contractor. Further, the Owner shall not provide to the Contractor any insurance coverage or other benefits, including Workers' Compensation, normally provided by the Owner for its employees.
- 2.26. Nonconforming Terms and Conditions:** A response that includes terms and conditions that do not conform to the terms and conditions of this Solicitation is subject to rejection as non-responsive. The Owner reserves the right to permit the Contractor to withdraw nonconforming terms and conditions from its response prior to a determination by the Owner of non-responsiveness based on the submission of nonconforming terms and conditions.
- 2.27. Ownership:** All plans, prints, designs, concepts, etc., shall become the property of the Owner.
- 2.28. Patents/Copyrights:** The Contractor agrees to protect the Owner from any claims involving infringements of patents and/or copyrights. In no event shall the Owner be liable to the Contractor for any/all suits arising on the grounds of patent(s)/copyright(s) infringement. Patent/copyright infringement shall null and void any agreement resulting from response to this Solicitation.
- 2.29. Remedies:** The Contractor and Owner agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.
- 2.30. Venue:** Any agreement as a result of responding to this Solicitation shall be deemed to have been made in, and shall be construed and interpreted in accordance with, the laws of the City of Grand Junction, Mesa County, Colorado.
- 2.31. Expenses:** Expenses incurred in preparation, submission and presentation of this Solicitation are the responsibility of the company and cannot be charged to the Owner.
- 2.32. Sovereign Immunity:** The Owner specifically reserves its right to sovereign immunity pursuant to Colorado State Law as a defense to any action arising in conjunction to this agreement.
- 2.33. Non-Appropriation of Funds:** The contractual obligation of the Owner under this contract is contingent upon the availability of appropriated funds from this fiscal year budget as approved by the City Council or Board of County Commissioners from this fiscal year only. **State of Colorado Statutes prohibit obligation of public funds beyond the fiscal year for which the budget was approved.** Anticipated expenditures/obligations beyond the end of the current Owner's fiscal year budget shall be subject to budget approval. Any contract shall be subject to, and must contain, a governmental non-appropriation of funds clause.

2.34. Cooperative Purchasing: Purchases as a result of this solicitation are primarily for the Owner. Other governmental entities may be extended the opportunity to utilize the resultant contract award with the agreement of the successful provider and the participating agencies. All participating entities shall be required to abide by the specifications, terms, conditions and pricings established in this Solicitation. The quantities furnished in this bid document are for only the Owner. It does not include quantities for any other jurisdiction. The Owner shall be responsible only for the award for its jurisdiction. Other participating entities shall place their own awards on their respective Contract/Purchase Orders through their Purchasing Office or use their Purchasing Card for purchase/payment as authorized or agreed upon between the provider and the individual entity. The Owner accepts no liability for payment of orders placed by other participating jurisdictions that choose to piggy-back on our solicitation. Orders placed by participating jurisdictions under the terms of this solicitation shall indicate their specific delivery and invoicing instructions.

2.35. Keep Jobs in Colorado Act: Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a). If Contractor claims it is entitled to a waiver pursuant to C.R.S. §8-17-101(1), Contractor shall state that there is insufficient Colorado labor to perform the work such that compliance with Article 17 would create an undue burden that would substantially prevent a project from proceeding to completion and shall include evidence demonstrating the insufficiency and undue burden in its response.

Unless expressly granted a waiver by the Owner pursuant to C.R.S. §8-17-101(1), Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a).

2.35.1. "Public Works Project" is defined as:

- (a) any construction, alteration, repair, demolition, or improvement of any land, building, structure, facility, road, highway, bridge, or other public improvement suitable for and intended for use in the promotion of the public health, welfare, or safety and any maintenance programs for the upkeep of such projects
- (b) for which appropriate or expenditure of moneys may be reasonably expected to be \$500,000.00 or more in the aggregate for any fiscal year
- (c) except any project that receives federal moneys.

2.36. Definitions:

2.36.1. The term "Work" includes all labor, materials, equipment, and/or services necessary to produce the requirements of the Contract Documents.

2.36.2. "Contractor" is the person or organization identified as such in the Agreement and is referred to throughout the Contract Documents. The term Contractor means the Contractor or his authorized representative. The Contractor shall carefully study and compare the General Contract Conditions of the Contract, Specification and Drawings, Scope of Work,

Addenda and Modifications and shall at once report to the Owner any error, inconsistency or omission he may discover. Contractor shall not be liable to the Owner for any damage resulting from such errors, inconsistencies, or omissions. The Contractor shall not commence work without clarifying Drawings, Specifications, or Interpretations.

2.36.3. “Sub-Contractor is a person or organization who has a direct contract with the Contractor to perform any of the work at the site. The term sub-contractor is referred to throughout the contract documents and means a sub-contractor or his authorized representative.

3. Specifications and Special Conditions & Provisions

3.1. General: The City of Grand Junction is accepting competitive pricing, from qualified and interested companies, to supply and deliver six (6) replacement aeration mixing equipment for the existing Flow Equalization (FE) Basins, which includes, six (6) electric motor-driven air assist propeller-type, or rotor-type, floating aerators/mixers.

3.2. Specifications: See Appendix A for aerator/mixer specifications.

3.3. Special Conditions & Provisions:

3.3.1 Manufacturer Specifications: At a minimum, Bidders shall supply product data sheets, manufacturer specification sheets, shop drawings and warranty information on the aerators/mixers with their bid submittal.

3.3.2 Rejection of Products/Supplies: The City of Grand Junction reserves the right to return products/supplies due to product flaws and/or not meeting specifications upon delivery to the Persigo WWTP. Judgment of non-conformity and flaws will be at the discretion of the Persigo WWTP and its Consultant.

3.3.3 Delivery Schedule: Provide estimated lead time for the six (6) aerators/mixers. See Price Bid Schedule to complete estimated lead times and product delivery.

3.3.4 Delivery Location: The aerators/mixers shall be delivered to the Persigo WWTP located at **2145 River Road, Grand Junction, CO 81505**

***Please call before delivery to verify proper location:
Lee Cooper 970-256-4155 or Larry Brown 970-256-4168**

3.3.5 Price: Pricing shall be all inclusive, to include, but not be limited to: labor, materials, shipping/freight, etc.

All prices shall be “F.O.B. Destination Freight Pre-Paid and Allowed”. The Owner shall not pay nor be liable for any other additional costs including but not limited to: taxes, shipping charges, insurance, interest, penalties, termination payments, attorney fees, liquidated damages, etc.

3.3.6 Minimum Order Quantities: The bidder shall not establish a minimum order quantity for items under contract.

3.3.7 Contract: A binding contract shall consist of: (1) the IFB and any amendments thereto, (2) the bidder’s response (bid) to the IFB, (3) clarification of the bid, if any, and (4) the City’s Purchasing Department’s acceptance of the bid by “Notice of Award” or

by "Purchase Order". All Exhibits and Attachments included in the IFB shall be incorporated into the contract by reference.

A. The contract expresses the complete agreement of the parties and, performance shall be governed solely by the specifications and requirements contained therein.

B. Any change to the contract, whether by modification and/or supplementation, must be accomplished by a formal contract amendment signed and approved by and between the duly authorized representative of the bidder and the City Purchasing Division or by a modified Purchase Order prior to the effective date of such modification. The bidder expressly and explicitly understands and agrees that no other method and/or no other document, including acts and oral communications by or from any person, shall be used or construed as an amendment or modification to the contract.

3.3.8 Brand Name or Equal: Whenever in this bid invitation any particular materials, process, mechanism, and/or equipment are indicated, described, or specified by patent, proprietary, or brand name, or by name of manufacturer, such wording will be deemed to be used for the purpose of facilitating minimum acceptable requirements and will be deemed to be followed by the words, "or equal". Proof satisfactory to the Owner must be provided by Bidder to show that the alternative product/equipment/vehicle is in fact, equal to specification requirements.

The Owner has determined that the brand name, model name/numbers meet the specifications as stated in the solicitation documents. These manufacturer's references are not intended to be restrictive but descriptive of the type and quality the Owner desires to purchase. Bids for similar manufactured items of like quality will be considered if the bid is fully noted with the manufacturer's brand name and model. The Owner reserves the right to determine products of equal value. Bidders will not be allowed to make unauthorized substitutions after award is made.

3.4. Contractor Bid Documents: For Contractor's convenience, the following is a list of forms/items to be submitted with the Contractor's bid response. However, should a form/item not be listed in this section, but required in the solicitation documents, it is the Contractor's responsibility to ensure all forms/items are submitted.

- Contractor's Bid Form
- Price Bid Schedule with Lead Time
- Floating Aerator/Mixer Product Data Sheets, Manufacturer's Specifications, Shop Drawings (pdf format), Warranty

3.5. IFB Tentative Time Schedule:

- | | |
|---|--------------------|
| • Invitation for Bids available on or about: | August 26, 2022 |
| • Inquiry deadline, no questions after this date: | September 16, 2022 |
| • Addendum Posted: | September 23, 2022 |
| • Submittal deadline for proposals: | September 30, 2022 |
| • City Council Approval: | October 19, 2022 |
| • Contract execution: | October 20, 2022 |

3.6. Questions Regarding Scope of Services:

Dolly Daniels, Senior Buyer
dollyd@gjcity.org

4. Contractor's Bid Form

Bid Date: _____

Project: IFB-5107-22-DD "Persigo WWTP Floating Mechanical Aerators/Mixers Purchase Only"

Bidding Company: _____

Name of Authorized Agent: _____

Email _____

Telephone _____ **Address** _____

City _____ **State** _____ **Zip** _____

The undersigned Bidder, in compliance with the Invitation for Bids, having examined the Instruction to Bidders, General Contract Conditions, Statement of Work, Specifications, and any and all Addenda thereto, having investigated the location of, and conditions affecting the proposed work, hereby proposes to furnish all labor, materials and supplies, and to perform all work for the Project in accordance with Contract Documents, within the time set forth and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Contractor's Bid Form is a part.

The undersigned Contractor does hereby declare and stipulate that this offer is made in good faith without collusion or connection to any person(s) providing an offer for the same work, and that it is made in pursuance of, and subject to, all terms and conditions of the Instructions to Bidders, the Specifications, and all other Solicitation Documents, all of which have been examined by the undersigned.

The Contractor also agrees that if awarded the Contract, to provide insurance certificates within ten (10) working days of the date of Notification of Award. Submittal of this offer will be taken by the Owner as a binding covenant that the Contractor will be prepared to complete the project in its entirety.

The Owner reserves the right to make the award on the basis of the offer deemed most favorable, to waive any formalities or technicalities and to reject any or all offers. It is further agreed that this offer may not be withdrawn for a period of sixty (60) calendar days after closing time. Submission of clarifications and revised offers automatically establish a new thirty day (30) period.

Prices in the bid proposal have not knowingly been disclosed with another provider and will not be prior to award.

- Prices in this bid proposal have been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition.
- No attempt has been made nor will be to induce any other person or firm to submit a bid proposal for the purpose of restricting competition.
- The individual signing this bid proposal certifies they are a legal agent of the offeror, authorized to represent the offeror and is legally responsible for the offer with regard to supporting documentation and prices provided.
- Direct purchases by the City of Grand Junction are tax exempt from Colorado Sales or Use Tax. Tax exempt No. 98-903544. The undersigned certifies that no Federal, State, County or Municipal tax will be added to the above quoted prices.
- City of Grand Junction payment terms shall be Net 30 days.
- Prompt payment discount of _____ percent of the net dollar will be offered to the Owner if the invoice is paid within _____ days after the receipt of the invoice. The Owner reserves the right to take into account any such discounts when determining the bid award that are no less than Net 10 days

RECEIPT OF ADDENDA: the undersigned Contractor acknowledges receipt of Addenda to the Solicitation, Specifications, and other Contract Documents.

State number of Addenda received: _____.

It is the responsibility of the Bidder to ensure all Addenda have been received and acknowledged. *By signing below*, the Undersigned agree to comply with all terms and conditions contained herein.

Company: _____

Authorized Signature: _____

Title: _____

Price Bid Schedule & Lead Time:

(Bidder shall indicate product/materials lead time for each line item)

Item No.	City Ref.	Description	Quantity	Units	Unit Price	Total Price
1	Section 46 41 26	Floating Mechanical Aerators/Mixers	6	Each	\$	\$

Written Bid Amount:

_____ dollars

By signing below, the Undersigned agrees to comply with all terms and conditions contained herein.

Company: _____

Print Name: _____

**Authorized
Signature:** _____

Title: _____

Address: _____

Phone Number: _____

Lead Time/Expected Delivery Date: _____

APPENDIX A

Floating Mechanical Aerators/Mixers Specification

SECTION 46 41 26: FLOATING MECHANICAL AERATORS/MIXERS

PART 1 - GENERAL

1.01 SUMMARY:

- A. This Section covers furnishing, installing, and testing of replacement aeration equipment for the existing Flow Equalization Basins. Including six (6) electric motor-driven air assist propeller-type, or rotor-type, floating aerator/mixers. In the case of air assist propeller-type aerators, each shall be equipped with a regenerative blower and blower motor. All aerator/mixers shall be equipped with flotation assemblies, electrical cables, and related hardware.
- B. Floating mechanical aerator/mixers shall be capable of mixing raw sewage. Aerator/mixers shall be certified for use in a Class 1, Division 2 location.
- C. Equipment shall be furnished complete with all components, hardware, motors, controls, and all other parts and accessories indicated, specified, or required for proper installation, operation, and maintenance.
- D. All Equipment specified in this section shall be provided by the same manufacturer and shall be suitable for installation and operation in the Flow Equalization Basins as indicated. Any revisions necessary for proper installation, operation and performance of the Equipment furnished shall be the responsibility of the Manufacturer.

1.02 REFERENCES:

- A. Applicable Standards:
 - 1. Anti-Friction Bearing Manufacturer's Association (AFBMA).
 - 2. American Gear Manufacturers Association (AGMA).
 - 3. American Iron and Steel Institute (AISI).
 - 4. American Society of Mechanical Engineers (ASME).
 - 5. American Society for Testing and Materials (ASTM):
 - a. A36 - Structural Steel.
 - b. A303/304 - Stainless Steel Bolts.
 - 6. American Welding Society (AWS).
 - 7. National Electrical Manufacturers Association (NEMA).
 - 8. National Electric Code (NEC).
 - 9. Occupational Safety and Health Administration (OSHA).

1.03 SUBMITTALS:

- A. Submit as specified herein:
- B. Definitions:
 - 1. Shop Drawings, product data, and Samples are technical Submittals prepared by the Contractor, Subcontractor, manufacturer, or Supplier and submitted by Contractor to Engineer as a basis for approval of the use of Equipment and Materials proposed for incorporation in the Work or needed to describe installation, operation, maintenance, or technical properties, as specified in each Division of the Specifications.
 - a. Shop Drawings include custom-prepared data of all types including drawings, diagrams, performance curves, material schedules, templates, instructions, and similar information not in standard printed form applicable to other projects.
 - 2. Informational Submittals are those technical reports, administrative Submittals, certificates, and guarantees not defined as Shop Drawings, product data, or Samples.
 - a. Technical reports include laboratory reports, tests, technical procedures, technical

SECTION 46 41 26: FLOATING MECHANICAL AERATORS/MIXERS (continued)

- records, and Contractor's design analysis.
- b. Certificates and guarantees are those Submittals on Equipment and Materials where a written certificate or guarantee from the manufacturer or Supplier is called for in the Specifications.
- C. Quality Requirements:
1. Submittals such as Shop Drawings and product data shall be of suitable quality for legibility and reproduction purposes. Every line, character, and letter shall be clearly legible. Drawings such as reproducibles shall be useable for further reproduction to yield legible hard copy.
 2. Documents submitted to Engineer that do not conform to specified requirements shall be subject to rejection by Engineer, and upon request by Engineer, Supplier shall resubmit conforming documents. If conforming Submittals cannot be obtained, such documents shall be retraced, redrawn, or photographically restored as may be necessary to meet such requirements. Supplier's failure to initially satisfy the legibility quality requirements will not relieve Supplier from meeting the required schedule for Submittals.
- D. Language and Dimensions:
1. All words and dimensional units shall be in the English language.
 2. Metric dimensional unit equivalents may be stated in addition to the English units. However, English units of measurement shall prevail.
- E. Submittal Completeness:
1. Submittals shall be complete with respect to dimensions, design criteria, materials of construction, and other information specified to enable Engineer to review the information effectively.
 2. Where standard drawings are furnished which cover a number of variations of the general class of Equipment, each drawing shall be annotated to indicate exactly which parts of the drawing apply to the Equipment being furnished. Use hatch marks to indicate variations that do not apply to the Submittal. The use of "highlighting markers" will not be an acceptable means of annotating Submittals. Annotation shall also include proper identification of the Submittal permanently attached to the drawing.
- F. Form of Submittals:
1. Submittals and other Project documents shall be transmitted as electronic (PDF) format.
- G. Includes, but not limited to, the following:
1. Manufacturer's specifications including brake horsepower, power input and design operating conditions.
 2. Detailed equipment and installation drawings including all weights and dimensions.
 3. Warranty.
 4. Power and Control schematic diagrams indicating factory and field wiring. All diagrams shall be complete and have uniquely numbered terminals, wires, and devices.
 5. Operation and maintenance manual.
 - a. Instructions for installation, start-up, operation, inspection, maintenance, parts lists and recommended spare parts, and data sheets showing model numbers.
 - b. Applicable drawings.
 - c. Warranties and guarantees.
 - d. Address of nearest manufacturer-authorized service facility.
 - e. All additional data specified.
 6. Protective coating system.
 7. Test results per Part 1.04
- H. Engineer's Review:
1. Engineer will review Submittals for indications of Work or Material deficiencies.
 2. Engineer will respond to Supplier on those Submittals which indicate Work or Material

SECTION 46 41 26: FLOATING MECHANICAL AERATORS (continued)

deficiency.

3. Engineer will provide an action stamp for every Submittal submitted with an action to be provided by the Supplier according to the following:

A - SUBMITTAL APPROVED: Signifies Equipment or Material represented by the Submittal conforms with the design concept and complies with the intent of the Contract Documents and is approved for incorporation in the Work. Contractor is to proceed with fabrication or procurement of the items and with related Work. Copies of the Submittal are to be transmitted to Engineer for final distribution.

B - SUBMITTAL APPROVED AS NOTED (RESUBMIT): Signifies Equipment and Material represented by the Submittal conforms with the design concept and complies with the intent of the Contract Documents and is approved for incorporation in the Work in accordance with Engineer's notations. Contractor is to proceed with fabrication or procurement of the items and with related Work in accordance with Engineer's notations and is to submit a revised Submittal responsive to notations marked on the returned Submittal or written in the letter of transmittal.

C - SUBMITTAL RETURNED FOR REVISION (RESUBMIT): Signifies Equipment and Material represented by the Submittal appears to conform with the design concept and comply with the intent of the Contract Documents but information is either insufficient in detail or contains discrepancies which prevent Engineer from completing his review. Contractor is to resubmit revised information responsive to Engineer's annotations on the returned Submittal or written in the letter of transmittal. Fabrication or procurement of items represented by the Submittal and related Work is not to proceed until the Submittal is approved.

D - SUBMITTAL NOT APPROVED (SUBMIT ANEW): Signifies Equipment and Material represented by the Submittal does not conform with the design concept or comply with the intent of the Contract Documents and is disapproved for use in the Work. Contractor is to provide Submittals responsive to the Contract Documents.

E - PRELIMINARY SUBMITTAL: Signifies Submittals of such preliminary nature that a determination of conformance with the design concept or compliance with the intent of the Contract Documents must be deferred until additional information is furnished. Contractor is to submit such additional information to permit layout and related activities to proceed.

F - FOR REFERENCE, NO APPROVAL REQUIRED: Signifies Submittals which are for supplementary information only; pamphlets, general information sheets, catalog cuts, standard sheets, bulletins and similar data, all of which are useful to Engineer or Owner in design, operation, or maintenance, but which by their nature do not constitute a

SECTION 46 41 26: FLOATING MECHANICAL AERATORS/MIXERS (continued)

basis for determining that items represented thereby conform with the design concept or comply with the intent of the Contract Documents. Engineer reviews such Submittals for general content but not for basic details.

G - DISTRIBUTION COPY (PREVIOUSLY APPROVED): Signifies Submittals which have been previously approved and are being distributed to Contractor, Owner, Resident Project Representative, and others for coordination and construction purposes.

1.04 QUALITY ASSURANCE:

A. Factory Tests and Reports:

1. General:

- a. Manufacturer shall submit factory tests, procedures, and standard operating procedures. Factory tests and procedures shall be reviewable and modifiable by the Engineer.
- b. Acceptable performance of the aeration equipment shall be demonstrated prior to shipment of equipment from the factory.
- c. Equipment shall be modified as required prior to shipment to meet specified performance criteria.
- d. Equipment manufacturer shall furnish all test equipment necessary to conduct the specified performance tests.
- e. One unmodified aerator/mixer shall be tested. Test may be witnessed by Owner or Engineer.

2. Oxygen Transfer Test Procedure:

- a. Oxygen transfer test procedure shall be in accordance with ASCE "Measurement of Oxygen Transfer in Clean Water", latest edition.
- b. Submit proposed test procedure including test tank and test equipment configuration to Engineer for approval prior to performing test.
- c. Aeration equipment performance shall be considered acceptable if the Standard Oxygen Transfer Rate (SOTR) of the tested aerator/mixer is measured to be greater than or equal to 2.5 pounds of oxygen transferred per horsepower per hour with the aerator/mixer drawing a minimum total power of 20 bhp.

1.05 FACTORY ASSEMBLY:

- A. Aerator/mixer units shall be completely shop assembled and aligned prior to shipping or testing.
- B. After completion of the specified factory tests, aerator/mixers shall be prepared for shipment with the minimum amount of disassembly, and such that no field disassembly, cleaning, or flushing is required.
- C. Any components removed for shipping shall be match-marked prior to removal and shipment.

1.06 DELIVERY, STORAGE AND HANDLING:

- A. Manufacturer shall ship equipment pre-assembled to the degree that is practicable.
- B. Tag each item of equipment with contract number and equipment number.
- C. Protect all piping, equipment, conduit and control panel open-end connections with suitable end protection.
- D. Protect bearings and couplings against damage.
- E. Provide written rigging instructions for handling.
- F. Manufacturer shall provide instructions indicating specific requirements to protect against damage to or deterioration of components during delivery, storage, and handling.

SECTION 46 41 26: FLOATING MECHANICAL AERATORS (continued)

1.07 WARRANTY:

- A. The aerator/mixer manufacturer shall supply a 1-year non-prorated factory warranty to start upon the Owner's final acceptance of all units in operation.
- B. All parts supplied by the aerator/mixer manufacturer must be warranted by the same.
- C. Field replacement of aerator/mixer components shall in no way effect the manufacturer's warranty.
- D. All warranty repairs must be done in accordance with the manufacturer's O&M Manual.
- E. Manufacturer shall repair or replace any components that fail in materials or workmanship within the specified warranty period.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURER:

- A. Aeration Industries International, Inc.
- B. DBS Manufacturing.
- C. Or equal.

2.02 GENERAL REQUIREMENTS:

- A. Furnish six (6) electric motor-driven air assist propeller-type, or rotor-type, floating aerator/mixers for the indicated basins. The aerator induces the flow of air below the surface of the water and provides flow-linkage mixing in multiple unit arrangements.
- B. The aerator/mixers shall include an electric motor and, if applicable, a regenerative blower, both located above the water surface. The motor is connected to a hollow shaft within a protective housing positioned at desired angles for water displacement downward into the water. The hollow shaft drives a propeller(s), or rotor, beneath the water surface.
- C. Field replacement of aerator/mixer components shall in no way affect warranty.
- D. Include with the aerator/mixers the following:
 - 1. All items necessary for complete assembly and installation.
 - 2. All appurtenances and safety devices required for proper operation and maintenance.
 - 3. All manuals, drawings, parts lists, and special tools required for assembly, maintenance, and operation.
 - 4. Lubricants required for start-up procedure specified and one year of continuous operation.
 - 5. Aeration units shall be delivered completely assembled or in convenient sections as permitted by common carrier.
- E. All fasteners and hardware shall be stainless steel.
- F. This Section specifies equipment components to be supplied such as aerator/mixers, drive motors, blowers, and accessories. The specifying of these items in no way relieves the Equipment Supplier from being responsible for meeting all requirements of this section.

2.03 OPERATING CONDITIONS:

- A. Aerator/mixers shall be suitable for transferring oxygen and completely mixing the Flow Equalization Basins with aerator/mixers installed in the positions indicated.
- B. Flow Equalization Basin is divided into three sections with volumes and dimensions listed below and operating depths of 0 to 14 feet:
 - 1. Cell A volume is 6 MG with dimensions 250' by 250'.
 - 2. Cell B volume is 4 MG with dimensions 250' by 160'.
 - 3. Cell C volume is 2 MG with dimensions 250' by 82'.
- C. Aerator/mixers shall be installed in Cells A & B shown in contract Drawing.

SECTION 46 41 26: FLOATING MECHANICAL AERATORS/MIXERS (continued)

- D. Flow Equalization Basins have a concrete bottom and sides as shown in contract Drawing.
- E. The Flow Equalization Basins receives screened and primary clarified raw wastewater.
- F. Design parameters used for the design of the aeration system include the following:
 - 1. Aeration Basin Liquid Temperature:
 - a. Minimum: 10° C.
 - b. Maximum: 25° C.
 - 2. Maximum total horsepower per aerator/mixer: 20 hp.
 - 3. Minimum oxygen transfer provided per aerator/mixer: 50 lb/hr O₂.

2.04 DESIGN REQUIREMENTS:

- A. Each aerator/mixer shall be capable of providing the specified minimum SOTR.
- B. Drive motor and blower motor sizes shall be the same for all six (6) aerator/mixers. If aerators include blowers, the combined operating brake horsepower of the drive motor and blower motor shall not exceed 20 hp for any one aerator.
- C. The aeration equipment shall be designed to limit the longitudinal thrust on the mooring cables to no more than 1,000 pounds for any single aerator/mixer when operated singly or in combination with any number of additional aerator/mixers.

2.05 AERATOR DRIVE MOTORS:

- A. Rated for 900 rpm, 480-volt, 3-phase, 60 Hz operation.
- B. Motor enclosure shall be Totally Enclosed, Fan Cooled (TEFC).
- C. Motor frame shall be made of cast iron end brackets and cast-iron body and shall have "C" face mounting provisions.
- D. Motor configuration shall allow mounting with vertical shaft where bearings provide sufficient support.
- E. Conforming to NEMA Design B, Class F insulation.
- F. Horsepower Rating Requirements:
 - 1. Ambient Temperature Range: 0 °C to 45°C.
 - 2. Service Factor: 1.15.
 - 3. Speed as specified or indicated for each piece of equipment driven.
 - 4. Adequate to drive equipment without using service factor except in emergency conditions.
 - 5. Rated for continuous duty.
- G. Interior and exterior of the motor shall be painted. The exterior shall be painted with a rust resistant primer and a rust resistant paint. The interior shall be painted with a rust resistant primer, or a rust resistant primer and paint. The exterior coating of paint shall provide suitable UV protection so that color retention and surface does not deteriorate within 10 years of normal outdoor exposure.
- H. Provision for draining the motor shall be located on the shaft end of the motor. Provision shall be made to allow internal moisture to drain thru the outer edge of the motor C-face. All other drain holes are to be plugged in a watertight manner.
- I. Inpro type seals shall be installed external to the motor on the shaft end of the motor to prevent moisture from entering the motor along the shaft.
- J. The motor shall be balanced to within 1 MIL to be measured on any part of the motor frame, including the C-face.
- K. The noise level of the motor shall be in accordance with NEMA MG 1-12.49.
- L. Minimum L10 bearing life for continuous operation of 100,000 hours to conform to AFBMA.
- M. Provide three "Klixon" type thermal switch detectors (one per phase) imbedded in the stator windings. Provide N.O. contacts and wire out to a separate conduit box on the motor.
- N. Motor space heaters shall be provided on all motors securely attached to the motor windings.

SECTION 46 41 26: FLOATING MECHANICAL AERATORS (continued)

- Motor space heaters shall be designed to maintain the motor internal temperature above the dew point when the motor is not running. Space heaters shall be silicon rubber type designed for long life and low skin temperature. Motor space heaters shall be operated at 120Vac.
- O. A stainless-steel nameplate shall be provided with each motor and shall be securely fastened thereto. Information shall include voltage, speed, phase, insulation class, amperage, service factor, wiring diagram and motor serial number.
 - P. The conduit box shall be a two-piece cast iron box firmly bolted to the motor housing frame at four points. There shall be a neoprene type gasket between the conduit box cover and box to inhibit water entry into the enclosure. The wire patch between the conduit box and motor shall have a gasket or adequate sealing material to inhibit moisture from entering the motor or conduit box. The cover is to be attached to the conduit box with four 410 or better stainless-steel screws.
 - Q. A wiring diagram on a stainless-steel plate showing proper power connection, lead designation, and lead configuration shall be affixed to the motor. Acceptable locations are the name plate and/or the inside surface of the conduit box cover.
 - R. Wire leads shall be legibly marked with designations that match the wiring diagram. Lead designations shall not be written over other wire markings. Wire leads shall be non-wicking.
 - S. The conduit box is to be installed so that the opening is on the same side as the motor shaft.

2.06 BLOWERS (IF APPLICABLE):

- A. Blowers shall be completely sealed regenerative type.
- B. Blowers shall be aluminum alloy construction and be complete with all necessary accessories including inlet filters, mounting hardware, and connecting fittings.
- C. Blower Motors:
 - 1. Rated for 480-volt, 3-phase, 60 Hz operation.
 - 2. Motor enclosure shall be Totally Enclosed, Fan Cooled (TEFC).
 - 3. Conforming to NEMA Design B, Class F insulation.
 - 4. Horsepower Rating Requirements:
 - a. Ambient Temperature: 0°C to 45°C.
 - b. Service Factor: 1.15.
 - c. Speed as specified or indicated for each piece of equipment driven.
 - d. Adequate to drive equipment without using service factor except in emergency conditions.
 - e. Rated for continuous duty.
 - 5. Motors shall have aluminum frames.
 - 6. Provide three "Klixon" type thermal switch detectors (one per phase) imbedded in the stator windings. Provide N.O. contacts and wire out to a separate conduit box on the motor.
 - 7. Motor space heaters shall be provided on all motors securely attached to the motor windings. Motor space heaters shall be designed to maintain the motor internal temperature above the dew point when the motor is not running. Space heaters silicon rubber type designed for long life and skin temperature. Motor space heaters shall be operated at 120Vac.

- 2.07 MOUNTING FLANGES: The mounting flanges shall be 304 stainless steel with machine registered fit and shall permit removal of the aerator mechanism leaving the motor in place. The mounting flange will allow the aerator to be rotated out of the water for inspection, maintenance, or storage.

SECTION 46 41 26: FLOATING MECHANICAL AERATORS/MIXERS (continued)

2.08 SHAFTS/UNIVERSAL JOINT COUPLINGS:

- A. The shafts shall be 304 stainless steel full welded to a forged carbon steel universal joint coupling. The shafts must be hollow to promote maximum air flow and oxygen transfer. The shafts shall be dynamically balanced.
- B. The universal joint couplings shall include a standard grease fitting for maintenance lubrication.
- C. The shafts shall be stabilized by a replaceable water lubricated bearing located within one inch from the propeller hub. The area of the shaft supported by the bearing shall be fitted with a replaceable hardened non-metallic sleeve.

2.09 HOUSINGS: The housings shall be 304 stainless steel and flanged for mounting to the aerators. The housings shall form a guard around the hollow shaft and support a field replaceable, water-lubricated bearing press-fitted into the housing lower end. Water lubrication holes shall penetrate the housings in the area surrounding the bearing.

2.10 BEARINGS: The field replaceable water lubricated lower support bearings shall be constructed of post-cured elastomer molded inside a fiber backing. The bearings shall be press-fitted into the housing to allow ease of replacement.

2.11 SLEEVES: The replaceable hardened zirconia sleeves shall be the only moving part in contact with the elastomeric bearings and shall spin with the shaft as one unit. The sleeves shall be solid and homogeneous. Units must be supplied with replaceable hardened non-metallic sleeves.

2.12 PROPELLERS (IF APPLICABLE):

- A. The propellers shall be stainless steel specifically designed to maximize oxygen transfer and mixing characteristics. Propellers shall be self-tightening such that the propeller threads tighten on the shaft threads during normal operation. The entire flow of air shall pass through the propellers via the hollow drive shaft along the axis of the propeller hub.
- B. The propeller design shall be tested in clean water and shown to draw a minimum of 85% of the recommended full motor amperage load at nameplate voltage and power factor.
- C. The propeller shall be designed to allow easy removal and replacement in the field.

2.13 ROTORS (IF APPLICABLE):

- A. The rotors shall be stainless steel for submergence applications specifically designed to maximize oxygen transfer and mixing characteristics.
- B. The rotor design shall be tested in clean water and shown to draw a minimum of 85% of the recommended full motor amperage load at nameplate voltage and power factor.
- C. The rotor shall be designed to allow easy removal and replacement in the field.

2.14 VORTEX SHIELDS:

- A. A vortex shield shall be furnished with each mounting assembly to eliminate the formation of vortices, maximize shaft airflow and prevent cavitation damage to the propeller during operation at all water depths.
- B. Mount using stainless steel hardware.

2.15 LOCATION, SUPPORT AND MOORING:

- A. Aerator/mixers shall be located in the Aeration Basin as indicated.
- B. Mooring hardware shall be stainless steel. Anchors and mooring cables shall be provided by Owner.

SECTION 46 41 26: FLOATING MECHANICAL AERATORS (continued)

- 2.16 FLOTATION: The aerator/mixer flotation assemblies shall consist of pontoons constructed of molded low-density polyethylene with ultraviolet inhibitor, filled with urethane foam. Each pontoon shall have a buoyancy greater than 600 pounds. The pontoon shape shall be designed with smooth, beveled edges to allow freezing into ice without breakage. The pontoons shall be connected by stainless steel structural members.
- 2.17 ELECTRICAL SERVICE CABLES:
- A. Cables shall be CSA/UL approved for severe environments, suitable for underwater service and one continuous length from each motor to its respective junction box as indicated.
 - B. The cable shall be jacketed, flexible stranded cable with individually wrapped conductors rated SEO-WA or equal.
 - C. Adequate strain release and/or anchoring shall be provided for the cables at their respective motors to prevent undue cable stress, flexing, or abrasion during installation, operation, or maintenance.
 - D. Provide power cables for all floating mechanical aerator/mixers of 75-foot length.
- 2.18 SERVICING:
- A. Aerator/mixer mounting assemblies shall be designed so the aerator/mixer may be rotated completely out of the water to allow servicing without removing the aerator/mixer from the flotation assembly.
 - B. Aluminum or stainless-steel platforms shall be provided along both sides of the aerator/mixers, drive motors and blowers to facilitate personnel access to the equipment for maintenance.
- 2.19 PROTECTIVE COATINGS:
- A. All steel or cast-iron surfaces shall be completely painted in the shop with manufacturer's protective coating system.
 - B. Coatings used must be suitable for the intended service and be approved by the Engineer.
 - C. Provide field touch-up materials.

PART 3 – EXECUTION

- 3.01 INSTALLATION:
- A. Owner to install equipment provided herein.
- 3.02 MANUFACTURER'S FIELD SERVICES:
- A. Provide start-up, testing, and training services for all aeration equipment.
 - 1. Furnish the services of qualified field personnel from the Suppliers or manufacturers of Equipment furnished and installed under this Contract, as required to perform all manufacturer's Field Services called for herein. Field personnel shall be certified by the Supplier or manufacturer of the specific product or system as having the necessary knowledge and experience to perform the required functions.
 - 2. Supplier's or manufacturer's field personnel to perform the following:
 - a. Observe the installation, start-up, and testing of Equipment.
 - b. Instruct and guide Owner in proper procedures.
 - c. Supervise the initial start-up, operational check, and any required adjustments of Equipment.
 - d. Instruct Owner's designated personnel in proper operation and maintenance of all Equipment. Supplier or manufacturer shall provide the Owner with one (1) weeks

SECTION 46 41 26: FLOATING MECHANICAL AERATORS/MIXERS (continued)

notice prior to instruction to allow for scheduling of personnel.

- e. Furnish a written report to Engineer covering all Work done at least once each week and when Work on each item of Equipment or system is completed.
3. Advise Engineer of arrival at the Site of all Supplier's and manufacturer's field personnel.
4. All other manufacturer's Field Services by such field representatives in connection with start-up, testing, and instruction of Owner's personnel will be furnished at no charge to Owner.

3.03 STARTUP SERVICES:

- A. Owner shall place all Equipment installed under this Contract into successful operation according to instructions of the Supplier, manufacturer, or field representative, who shall be present at the time of startup.
- B. Prior to startup, Supplier, manufacturer, or field representative shall confirm proper installation, lubrication, and alignment of installed equipment as well as proper anchor bolt tensions, grout, and shims.

3.04 PERFORMANCE TESTS:

- A. Manufacturer, Supplier, or field representative to be present during performance tests to be performed by Owner.
 1. Owner will conduct acceptance tests after installation to determine if the Equipment installed as part of the Work perform in accordance with Contract Documents and as guaranteed. Final acceptance of Equipment and Substantial Completion will be based on acceptable results of such tests.
 2. No tests will be conducted on Equipment for which Supplier's or manufacturer's Field Service is specified unless Supplier's or manufacturer's field representative is present and declares in writing that the Equipment is ready for such test.
 3. The tests will be made as set forth in the Contract Documents unless the interested parties mutually agree upon some other manner of testing.
- B. Equipment Tests:
 1. The four (4) aerator/mixers installed in the northernmost basin shall be tested for at least thirty (30) minutes continuously.
 2. Remaining aerator/mixers installed in other basins will be "bumped" to confirm operability.
 3. Check performance of all components as a functioning unit.
 4. Power consumption shall be measured for each aerator/mixer and blower motor with a wattmeter. With all units running simultaneously, the transient power consumption of each aerator/mixer and, if applicable, blower motor shall not vary more than plus or minus 5% from the average value for that aerator/mixer or blower.
- C. Aeration equipment which fails to satisfy all specified performance requirements shall be modified or replaced as required. The equipment shall be completely retested after modification or replacement. Modifications and additional equipment shall be provided, and retesting performed, and all structural or electrical modifications necessary to accommodate the modified or replaced equipment shall be made at no additional cost to the Owner.

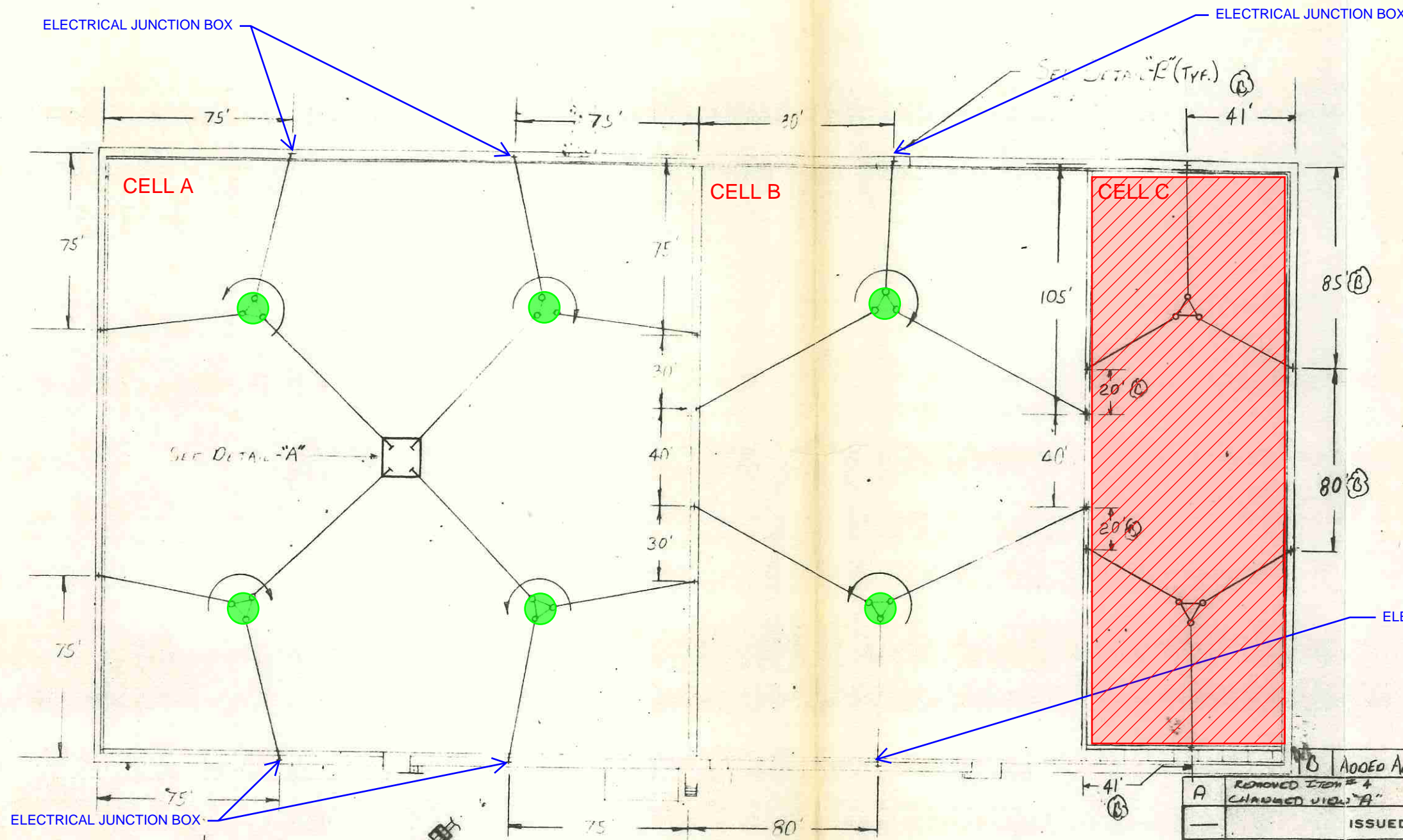
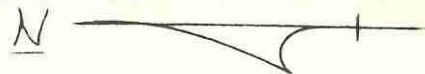
END OF SECTION 46 41 23

APPENDIX B

Flow Equalization Basins Mixer Exhibit

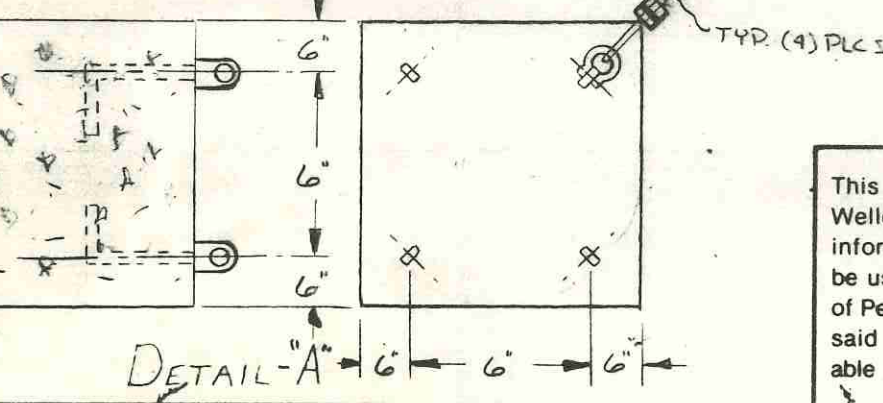
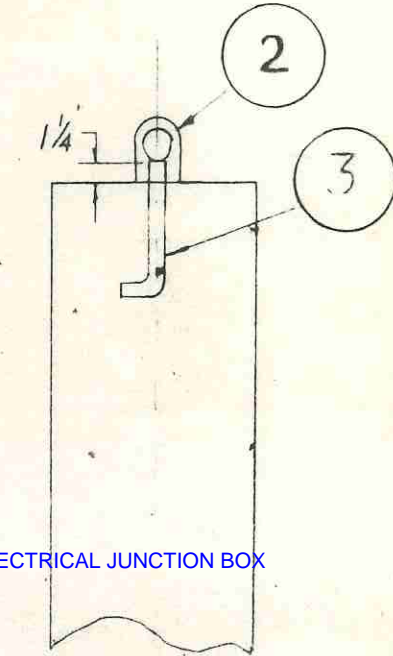
SYMBOL 741-057

ITEM	QTY.	MATERIAL	DESCRIPTION	MAT'L. WT.	VENDOR WT.
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NOTES:

- ● TO BE REPLACED
- AERATOR/MIXERS ARE TO BE REPLACED IN CELLS A & B
- AERATOR/MIXERS WILL NOT BE REPLACED IN THE FURTHEST SOUTH BASIN, CELL C



REF.	ADDED ANCHORAGE DIM.	06697	DLS	RHM	3-16-81
A	REMOVED DIM'S & CHANGED VIEW "A"	06511	TLB	RHM	1/20/81
	ISSUED	ER-3238	DLS	RHM	1/24/80
	REVISION	CHANGE ORDER NO.	BY	APP.	DATE

APPROX. MATL. WEIGHT		74	LBS.
APPROX. NET WEIGHT		74	LBS.
FRACTIONAL DIMENSIONS ALL TO BE ± UNLESS OTHERWISE SPEC.			
TOLERANCES APPLY TO MACHINED SURFACES			
DIM. SHOWN AS	TOL.		
0.0	0.000	± .060	
0.00	0.000	± .015	
0.000	0.000	± .003	

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TITLE: MODEL 62-56 (20HP) FLOATING SIMCAR AERATOR

MAT'L: SEE B/M

SCALE: $\frac{1}{4}$ "

JOB NO: W-110004-1

DRWN BY: DLS DATE: 11-12-80

APP BY: DLS DATE: 11-12-80

SYMBOL: 741-057

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