



**DIFFUSER REPLACEMENT PROJECT**

**CONTRACT DOCUMENTS**

**BIDDING REQUIREMENTS, CONTRACT FORMS,  
CONDITIONS OF THE CONTRACT,  
TECHNICAL SPECIFICATIONS AND DRAWINGS**

**Bids will be received at the office of South Valley Water Reclamation Facility  
located at**

**7495 South 1300 West, West Jordan, Utah 84084**

**until 2:00 PM Tuesday September 13, 2018.**

**SECTION 00020**  
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## **SECTION 00030 - NOTICE INVITING BIDS**

**RECEIPT OF BIDS:** Sealed Bids will be received at the office of the South Valley Water Reclamation Facility; OWNER of the WORK located at 7495 South 1300 West, West Jordan, Utah 84084, until 2:00 PM on Thursday, September 13, 2018, for construction of South Valley Water Reclamation Facility's "Diffuser Replacement Project". Any Bids received after the specified time and date will not be considered.

**OPENING OF BIDS:** The Bids will be publicly opened and read at 2:00 PM, Thursday, September 13, 2018, at the above-mentioned office of the OWNER.

**COMPLETION OF WORK:** The WORK shall be completed as described below:

- a) Contractor shall procure all new diffusers, remove and replace existing diffusers, pressure wash all existing membrane diffusers removed and deliver them to the Owner. Contractor shall provide all materials required for the Work described. The Work shall be completed by November 9, 2018.

**DESCRIPTION OF WORK:** The project consists of the following Items:

- a) The Work consists of replacing all existing Membrane Diffusers with new Membrane Diffusers.
- b) All Ceramic Diffusers in Zones OX4 through OX9 will be replaced with new Membrane Diffusers and PVC subplates. OX4 & OX7 (existing zone names) will have the quantity of Diffusers adjusted to match Carollo Engineers recommendations for Project 5.
- c) Contractor shall pressure wash (min. 2,500 psi) all existing Membrane Diffusers, remove and replace with new. Removed membrane diffusers will be turned over to SVWRF.
- d) Perform leak test of diffuser and correct all leaks. Leak test shall be performed with water in the basin and the Owner's aeration system turned on.
- e) Provide Field Service Report detailing the work within 1 week of completion of field work.

**SITE OF WORK:** The site of the WORK is located at the OWNER's water reclamation facility at 7495 South 1300 West, West Jordan, Utah.

**OBTAINING CONTRACT DOCUMENTS:** The Contract Documents are entitled "South Valley Water Reclamation Facility – Diffuser Replacement Project".

The Contract Documents may be obtained by bidders, subcontractors and equipment suppliers at the office of the South Valley Water Reclamation Facility, 7495 South 1300 West, West Jordan, Utah 84084 upon payment of \$25.00 (non-refundable) for each set of printed Contract Documents (including technical specifications and accompanying reduced scale drawings). Printed bid packages will be available from the receptionist on Monday through Thursday commencing on Wednesday, September 4, 2018 from 9:00 AM to 4:00 PM. Interested parties desiring emailed electronic files may download them from [www.svwwater.com](http://www.svwwater.com) under the Engineering menu. There will be no charge for emailed bid documents.

**BIDS TO REMAIN OPEN:** The Bidder shall guarantee the Total Bid Price for a period of 45 calendar days from the date of bid opening.

**PROJECT ADMINISTRATION:** Technical communications relative to this WORK or the purchase of Bid Documents shall be directed to the OWNER.

SOUTH VALLEY WATER RECLAMATION FACILITY

7495 South 1300 West  
West Jordan, Utah 84084  
Telephone: 801-495-5469  
e-mail: [tworthen@svwater.com](mailto:tworthen@svwater.com)  
Attention: Taigon Worthen, P.E.

OWNER'S RIGHTS RESERVED: The OWNER reserves the right to reject any or all bids, to waive any informality in a bid, and to make awards to the lowest responsive, responsible bidder as the OWNER in its sole discretion shall determine may best serve the interest of the OWNER.

- END OF NOTICE INVITING BIDS -

## **SECTION 00100 - INSTRUCTIONS TO BIDDERS**

1. **DEFINED TERMS.** Terms used in these Instructions to Bidders and the Notice Inviting Bids which are defined in the General Conditions have the meanings assigned to them in the General Conditions. The term "Bidder" means one who submits a Bid directly to OWNER, as distinct from a sub-bidder, who submits a price or quote to a Bidder.
2. **INTERPRETATIONS AND ADDENDA.**
  - 2.1 All questions about the meaning or intent of the Contract Documents are to be directed to the ENGINEER. Additions, deletions, or revisions to the Contract Documents considered necessary by the ENGINEER in response to such questions will be issued by Addenda, mailed, emailed, or delivered to all parties recorded by the OWNER as having received the Contract Documents. Questions received less than 5 days prior to the date of Bids may not be answered. Only answers to such questions issued by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
  - 2.2 Addenda may also be issued to make other additions, deletions, or revisions to the Contract Documents.
  - 2.3 Bidders shall make no special interpretation or inference of intent from differing formats in the Technical Specifications.
3. **BIDDER'S EXAMINATION OF CONTRACT DOCUMENTS AND SITE.**
  - 3.1 It is the responsibility of each Bidder before submitting a Bid:
    - A. To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (including "technical" data referred to below);
    - B. To visit the site to become familiar with local conditions that may affect cost, progress, or performance, of the WORK;
    - C. To consider federal, state, and local Laws and Regulations that may affect cost, progress, or performance of the WORK;
    - D. To study and carefully correlate the Bidder's observations with the Contract Documents; and
    - E. To notify the OWNER of all conflicts, errors, ambiguities, or discrepancies in or between the Contract Documents and such other related data.
  - 3.2 (Not Used)
  - 3.3 It is also the responsibility of each Bidder before submitting a Bid to examine thoroughly those reports of physical conditions in or relating to existing surface and subsurface conditions (except underground utilities as defined in Article 1 of the General Conditions) which are at or adjacent to the site and which were utilized by the OWNER in the preparation of the Contract Documents. Copies of such report and drawings are available for information at the office of the OWNER.
  - 3.4 Information and data reflected in the Contract Documents with respect to Underground Utilities at or contiguous to the site are based upon information and data furnished to the OWNER by the owners of such Underground Utilities or others, and the OWNER does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary General Conditions or Section 01530 - Protection of Existing Facilities.

- 3.5 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, Underground Utilities, and other physical conditions, and possible changes in the Contract Documents due to differing conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions.
- 3.6 Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests, and studies and obtain any additional information and data which pertain to the physical conditions (surface, subsurface, and Underground Utilities) at or contiguous to the site or otherwise which may affect cost, progress, or performance of the WORK and which the Bidder deems necessary to determine its Bid for performing the WORK in accordance with the time, price, and other terms and conditions of the Contract Documents.
- 3.7 On reasonable request in advance, the OWNER will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests, and studies as each Bidder deems necessary for submission of a Bid. Location of any excavation or boring shall be subject to prior approval of OWNER and applicable agencies. Bidder shall fill all holes, restore all pavement to match existing structural section, and shall clean up and restore the site to its former condition upon completion of such explorations. OWNER reserves the right to require Bidder to execute an Access Agreement with the OWNER prior to accessing the site.
- 3.8 The lands upon which the WORK is to be performed, rights-of-way, and easements for access thereto and other lands designated for use by the CONTRACTOR in performing the WORK are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by the CONTRACTOR. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by the OWNER unless otherwise provided in the Contract Documents.
- 3.9 The submission of a Bid will constitute an absolute representation by the Bidder that the Bidder has complied with every requirement of this Paragraph 3 and the following:
- A. That the Bid is premised upon performing the WORK required by the Contract Documents without exception and such means, methods, techniques, sequences, or procedures of construction (if any) as may be required by the Contract Documents;
  - B. That Bidder has given the OWNER written notice of all conflicts, errors, ambiguities, and discrepancies in the Contract Documents and the written resolution thereof by the OWNER is acceptable to the Bidder; and
  - C. That the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the WORK.
4. BID FORMS. The Bid shall be submitted on the Bid Forms bound herein. All blanks on the Bid Forms shall be completed in ink. All names must be printed below the signatures. The Bid shall be submitted in a sealed envelope which shall be plainly marked in the upper left hand corner with the name and address of the Bidder and shall bear the words "BID FORM" followed by the title of the Contract Documents for the WORK, the name of the OWNER, the address where Bids are to be delivered or mailed to, and the date and hour of opening of Bids.
5. CERTIFICATES.

- 5.1 Bids by corporations must be executed in the corporate name by the president, a vice-president, or other corporate officer. Such Bid shall be accompanied by the enclosed Certificate of Authority to sign, attested by the secretary or assistant secretary, and with the corporate seal affixed. The corporate address and state of incorporation must appear below the signature.
- 5.2 Bids by partnerships must be executed in the partnership name and be signed by a managing partner, accompanied by the enclosed Certificate of Authority to sign, and his/her title must appear under the signature and the official address of the partnership must appear below the signature.
- 5.3 Bids by joint ventures must be executed in the joint venture name and be signed by a joint venture managing partner, accompanied by the enclosed Certificate of Authority to sign, and his/her title must appear under the signature and the official address of the joint venture must appear below the signature.
6. **DISQUALIFICATION OF BIDDERS.** More than one Bid from an individual, firm, partnership, corporation, or association under the same or different names will not be considered. If the OWNER believes that any Bidder has financial interest in more than one Bid for the WORK contemplated, all Bids in which such Bidder is interested will be rejected. If the OWNER reasonably believes that collusion exists among the Bidders, all Bids will be rejected. A party who has quoted prices to a Bidder is not hereby disqualified from quoting prices to other Bidders, but is disqualified from submitting a Bid directly for the WORK.
7. **QUANTITIES OF WORK.** The quantities of work or material stated in unit price items of the Bid are supplied only to give an indication of the general scope of the WORK; the OWNER does not expressly or by implication agree that the actual amount of work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit price item of the WORK by an amount up to and including 25 percent of any Bid item, without a change in the unit price, and shall include the right to delete any Bid item in its entirety, or to add additional Bid items up to and including an aggregate total amount not to exceed 25 percent of the Bid price.
8. **COMPETENCY OF BIDDERS.** Only qualified and licensed CONTRACTORS experienced with membrane diffuser construction may submit a bid for the performance of the WORK.
9. **SUBMISSION OF BIDS.** The Bid shall be delivered by the time and to the place stipulated in the Notice Inviting Bids. It is the Bidder's sole responsibility to see that its Bid is received in proper time and at the proper place.
10. **DISCREPANCIES IN BIDS.** In the event there is more than one Bid item in a Bid Schedule, the Bidder shall furnish a price for all Bid items in the Schedule, and failure to do so will render the Bid non-responsive and shall cause its rejection. In the event there are unit price Bid items in a Bidding schedule and the amount indicated for a unit price Bid item does not equal the product of the unit price and quantity, the unit price shall govern and the amount will be corrected accordingly, and the BIDDER shall be bound by said correction. In the event there is more than one Bid item in a Bid Schedule and the total indicated for the Schedule does not agree with the sum of the prices Bid on the individual items, the prices Bid on the individual items shall govern and the total for the Schedule will be corrected accordingly, and the BIDDER shall be bound by said correction.
11. **MODIFICATIONS AND UNAUTHORIZED ALTERNATIVE BIDS.** Unauthorized conditions, limitations, or provisos attached to the Bid shall render it informal and may cause its rejection as being non-responsive. The Bid forms shall be completed without interlineations, alterations, or erasures in the printed text. Alternative Bids will not be considered unless

called for. Oral, telegraphic, telephonic or electronic Bids or modifications will not be considered.

12. **WITHDRAWAL OF BID.** The Bid may be withdrawn by the Bidder by means of a written request, signed by the Bidder or its properly authorized representative. Such written request must be delivered to the place stipulated in the Notice Inviting Bids for receipt of Bids prior to the scheduled closing time for receipt of Bids.
13. **AWARD OF CONTRACT.** Award of the contract, if awarded, will be made to the lowest responsive, responsible Bidder whose Bid complies with the requirements of the Contract Documents. Unless otherwise specified, any such award will be made within the period stated in the Notice Inviting Bids that the bids are to remain open. Unless otherwise indicated, a single award will be made for all the Bid items in an individual Bid Schedule.
14. **EXECUTION OF AGREEMENT.** The Bidder to whom award is made shall execute a written Agreement with the OWNER on the form of agreement provided, shall secure all insurance, and shall furnish all certificates and bonds required by the Contract Documents within 14 calendar days after receipt of the agreement forms from the OWNER. Failure or refusal to enter into an Agreement as herein provided or to conform to any of the stipulated requirements in connection therewith shall be just cause for annulment of the award and forfeiture of the Bid security. If the lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the OWNER may award the Contract to the second lowest responsive, responsible Bidder. If the second lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the OWNER may award the contract to the third lowest responsive, responsible Bidder. On the failure or refusal of such second or third lowest Bidder to execute the Agreement, each such Bidder's Bid securities shall be likewise forfeited to the OWNER.
15. **LIQUIDATED DAMAGES.** Provisions for liquidated damages, if any, are set forth in the Agreement.
16. **PREFERENCE FOR RESIDENT CONTRACTORS.** The OWNER will apply the provisions of Utah Procurement Code 63G-6-405. titled Preference for Resident Contractors (Utah Code -- Title 63G -- Chapter 6) wherein it is stated "(2) (a) When awarding contracts for construction, a public procurement unit shall grant a resident contractor a reciprocal preference as against a nonresident contractor from any state that gives or requires a preference to contractors from that state. (b) The amount of the reciprocal preference shall be equal to the amount of the preference applied by the state of the nonresident contractor."

- END OF INSTRUCTIONS TO BIDDERS -



## SECTION 00300 – BID FORMS

### BID

BID TO: South Valley Water Reclamation Facility

1. The undersigned Bidder proposes and agrees, if this Bid is accepted to enter into an Agreement with the OWNER in the form included in the Contract Documents to perform the WORK as specified or indicated in said Contract Documents entitled "South Valley Water Reclamation Facility – Diffuser Replacement Project".
2. Bidder accepts all of the terms and conditions of the Contract Documents, including without limitation those in the Notice Inviting Bids and Instructions to Bidders.
3. This Bid will remain open for the period stated in the "Notice Inviting Bids" unless otherwise required by law. Bidder will enter into an Agreement within the time and in the manner required in the "Notice Inviting Bids" and the "Instructions to Bidders", required by the Contract Documents.
4. Bidder has examined copies of all the Contract Documents including the following Addenda (receipt of all of which is hereby acknowledged):

Number	Date
_____	_____
_____	_____
_____	_____

Failure to acknowledge addenda shall render the bid non-responsive and shall be cause for its rejection.

5. Bidder has familiarized itself with the nature and extent of the Contract Documents, WORK, site, locality where the WORK is to be performed, the legal requirements (federal, state, and local laws, ordinances, rules, and regulations), and the conditions affecting cost, progress or performance of the WORK and has made such independent investigations as Bidder deems necessary.

To all the foregoing, and including all Bid Forms contained in the Bid, said Bidder further agrees to complete the WORK required under the Contract Documents within the Contract Time stipulated in said Contract Documents, and to accept in full payment therefore the Contract Price based on the Total Bid Price(s) named in the aforementioned Bid forms.

Dated:	_____	Bidder:	_____
		By:	_____
		Title:	_____

**BID CERTIFICATE**

**(if Corporation)**

STATE OF                    )  
                                  )       SS:  
COUNTY OF                )

I HEREBY CERTIFY that a meeting of the Board of Directors of the \_\_\_\_\_

\_\_\_\_\_

a corporation existing under the laws of the State of \_\_\_\_\_, held  
on \_\_\_\_\_, 20 \_\_\_\_\_, the following resolution was duly passed and  
adopted:

“RESOLVED, that \_\_\_\_\_, as  
\_\_\_\_\_ of this  
Corporation, be and is hereby authorized to execute the Bid dated \_\_\_\_\_,  
20\_\_\_\_, to the South Valley Water Reclamation Facility by this Corporation and that his/her  
execution thereof, attested by the Secretary of this Corporation, and with the Corporate Seal  
affixed, shall be the official act and deed of this Corporation.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the  
corporation this \_\_\_\_\_, day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Secretary

(SEAL)

**BID CERTIFICATE**

**(if Partnership)**

STATE OF                    )  
                                  )     SS:  
COUNTY OF                )

I HEREBY CERTIFY that a meeting of the Partners of the \_\_\_\_\_

\_\_\_\_\_

a partnership existing under the laws of the State of \_\_\_\_\_, held  
on \_\_\_\_\_, 20 \_\_\_\_\_, the following resolution was duly passed and adopted:

“RESOLVED, that \_\_\_\_\_, as  
\_\_\_\_\_ of the  
Partnership, be and is hereby authorized to execute the Bid dated \_\_\_\_\_, 20\_\_\_\_,  
to the South Valley Water Reclamation Facility by this Partnership and that his/her execution  
thereof, attested by the \_\_\_\_\_ shall be the official act and deed  
of this Partnership.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this \_\_\_\_\_, day of  
\_\_\_\_\_, 20\_\_\_\_.

**BID CERTIFICATE**

**(if Joint Venture)**

STATE OF                    )  
                                  )     SS:  
COUNTY OF                )

I HEREBY CERTIFY that a meeting of the Principals of the \_\_\_\_\_

\_\_\_\_\_

a joint venture existing under the laws of the State of \_\_\_\_\_, held  
on \_\_\_\_\_, 20 \_\_\_\_\_, the following resolution was duly passed and adopted:

“RESOLVED, that \_\_\_\_\_, as  
\_\_\_\_\_ of the Joint  
Venture, be and is hereby authorized to execute the Bid dated \_\_\_\_\_, 20\_\_\_\_, to  
the “South Valley Water Reclamation Facility by this Joint Venture and that his/her execution  
thereof, attested by the \_\_\_\_\_ shall be the official act and deed of this  
Joint Venture.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the  
corporation this \_\_\_\_\_, day of \_\_\_\_\_, 20\_\_\_\_.

## LIST OF SUBCONTRACTORS

The Bidder shall list below the name and the location of the place of business of each Subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a Subcontractor who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor's total bid or ten thousand dollars (\$10,000), whichever is greater. The Bidder shall also list below the portion of the WORK which will be performed by each Subcontractor under its contract. The prime contractor shall list only one Subcontractor for each portion as is defined by the prime contractor in its bid. The prime contractor shall submit information (see next page) required of specialty subcontractors which are proposed to do Sheet Metal (HVAC) Work, Mechanical Work or Electrical Work, if any.

The Bidder's attention is directed to the provisions of Paragraph entitled "Subcontract Limitations," of the Supplementary General Conditions which stipulates the percent of the WORK to be performed with the Bidder's own forces. Failure to comply with this requirement will render the Bid non-responsive and may cause its rejection.

<u>Work to be Performed</u>	<u>Subcontr. License Number</u>	<u>Percent of Total Bid</u>	<u>Subcontractor's Name and Address</u>
1. _____	_____	_____	_____ _____ _____
2. _____	_____	_____	_____ _____ _____ _____ _____
3. _____	_____	_____	_____ _____ _____ _____
4. _____	_____	_____	_____ _____ _____ _____

Note: Attach additional sheets if required.

## INFORMATION REQUIRED OF SPECIALTY SUBCONTRACTORS

The Bidder shall furnish the following information for each specialty subcontractor. Additional sheets shall be attached as required. Failure to complete Item Nos. 1, 2, and 3, will cause the Bid to be non-responsive and may cause its rejection.

(1) SPECIALTY SUBCONTRACTOR's name and address:

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(2) SPECIALTY SUBCONTRACTOR's license:

Primary Classification \_\_\_\_\_

State License No. and Expiration Date \_\_\_\_\_

Specialty classifications held, if any: \_\_\_\_\_

Name of Licensee, if different from (1) above:

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(3) ATTACH TO THIS BID a list of the 5 most recent construction contracts or subcontracts completed by the SPECIALTY SUBCONTRACTOR involving HVAC, Mechanical or Electrical Work of similar type and comparable value at Municipal Water Treatment Plants or Municipal Wastewater Treatment Plants.

The list shall include the following information as a minimum:

- Names, address, and telephone number of owner.
- Name of Project.
- Location of Project.
- Brief description of the work involved.
- Contract amount.
- Date of completion of the contract.
- Name, address, and telephone number of architect or engineer.
- Name of owner's project engineer.

## INFORMATION REQUIRED OF BIDDER

The Bidder shall furnish the following information. Additional sheets shall be attached as required. Failure to complete Item Nos. 1, 3, and 6, will cause the Bid to be non-responsive and may cause its rejection.

(1) CONTRACTOR's name and address:

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(2) CONTRACTOR'S telephone number: \_\_\_\_\_

(3) CONTRACTOR's fax number: \_\_\_\_\_

(4) CONTRACTOR's license: Primary Classification \_\_\_\_\_

State License No. and Expiration Date \_\_\_\_\_

Specialty classifications held, if any: \_\_\_\_\_

Name of Licensee, if different from (1) above: \_\_\_\_\_

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(5) Name, address, and telephone number of surety company and agent who will provide the required bonds on this contract:

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(6) ATTACH TO THIS BID a financial statement, references, and other information, sufficiently comprehensive to permit an appraisal of CONTRACTOR's current financial condition.

(7) ATTACH TO THIS BID a list of the 5 most recent construction contracts completed by the CONTRACTOR involving HVAC Work of similar type and comparable value at Municipal Water Treatment Plants or Municipal Wastewater Treatment Plants. The list shall include the following information as a minimum:

- Names, address, and telephone number of owner.
- Name of Project.
- Location of Project.
- Brief description of the work involved.
- Contract amount.
- Date of completion of the contract.
- Name, address, and telephone number of architect or engineer.
- Name of owner's project engineer.

**NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER  
AND SUBMITTED WITH BID**

STATE OF                    )  
                                  )       SS:  
COUNTY OF                )

\_\_\_\_\_, being first duly sworn, deposes and says that he or she is \_\_\_\_\_ of \_\_\_\_\_ the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit or cost element of awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Signed: \_\_\_\_\_

Subscribed and sworn to before me  
this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Notary Public in and for the  
County of \_\_\_\_\_  
State of \_\_\_\_\_

(SEAL)

- END OF BID FORMS -



## SECTION 00500 – AGREEMENT

THIS AGREEMENT is dated as of the \_\_\_\_\_ day of \_\_\_\_\_ in the year 2018 by and between South Valley Water Reclamation Facility (hereinafter called OWNER) and \_\_\_\_\_ (Hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

### ARTICLE 1. WORK.

CONTRACTOR shall complete the WORK as specified or indicated in the OWNER's Contract Documents entitled "South Valley Water Reclamation Facility – Diffuser Replacement Project". The WORK is generally described as follows and as listed in Schedule A:

- a) The Work consists of replacing all existing Membrane Diffusers with new Membrane Diffusers.
- b) All Ceramic Diffusers in Zones OX4 through OX9 will be replaced with new Membrane Diffusers and PVC subplates. OX4 & OX7 (existing zone names) will have the quantity of Diffusers adjusted to match Carollo Engineers recommendations for Project 5.
- c) Contractor shall pressure wash (min. 2,500 psi) all existing Membrane Diffusers, remove and replace with new. Removed membrane diffusers will be turned over to SVWRF.
- d) Perform leak test of diffuser and correct all leaks. Leak test shall be performed with water in the basin and the Owner's aeration system turned on.
- e) Provide Field Service Report detailing the work within 1 week of completion of field work.

### ARTICLE 2. CONTRACT TIMES

COMPLETION OF WORK: The WORK shall be completed as follows:

1. Contractor shall begin WORK as soon as the Notice to Proceed is issued following award of WORK. Notice to Proceed is planned for 9/18/2018. Work shall be complete by 11/9/2018.

### ARTICLE 3. LIQUIDATED DAMAGES

OWNER and the CONTRACTOR recognize that time is of the essence of this Agreement and that the OWNER will suffer financial loss if the WORK is not completed within the time specified in Article 2 herein, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense, and difficulties involved in proving in a legal proceeding the actual loss suffered by the OWNER if the WORK is not completed on time. Accordingly, instead of requiring any such proof, the OWNER and the CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) the CONTRACTOR shall pay the OWNER \$100.00 for each day that expires after the deadlines specified in Article 2 herein.

#### ARTICLE 4. CONTRACT PRICE

OWNER shall pay CONTRACTOR for completion of the WORK in accordance with the Contract Documents in current funds the amount set forth in the Bid Schedule(s).

#### ARTICLE 5. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by OWNER as provided in the General Conditions.

#### ARTICLE 6. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR concerning the WORK consist of this Agreement (pages 00500-1 to 00500-6, inclusive) and the following attachments to this Agreement:

- Notice Inviting Bids (pages 00030-1 to 00030-2, inclusive).
- Instructions to Bidders (pages 00100-1 to 00100-4, inclusive).
- Bid Forms including the Bid, Bid Schedule(s), information required of Bidder, and all required certificates and affidavits (pages 00300-1 to 00300-8 and 00310-1 to 00310-2, inclusive).
- Technical Specifications consisting of Divisions and pages, as listed in the Table of Contents.
- Drawings consisting of 20 sheets of the existing aeration system in Bioreactor 4.
- Tables of Existing Aeration System & Carollo Recommendations for diffuser count/zone.
- Addenda numbers \_ to \_, inclusive.
- Notice to Proceed.
- Change Orders which may be delivered or issued after Effective Date of this Agreement and are not attached hereto.

There are no Contract Documents other than those listed in this Article 6. The Contract Documents may only be amended by Change Order as provided in Paragraph 3.03 of the General Conditions.

#### ARTICLE 7. ASSIGNMENTS

No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have caused this Agreement to be executed the day and year first above written.

OWNER:

South Valley Water Reclamation Facility

By \_\_\_\_\_  
(Jerry Knight, Board Chairman)

Attest \_\_\_\_\_

Address for giving notices:

South Valley Water Reclamation Facility  
7495 South 1300 West  
West Jordan, Utah 84084

Approved as to Form:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Facility Attorney)

CONTRACTOR:

\_\_\_\_\_  
By \_\_\_\_\_

[CORPORATE SEAL]

Attest \_\_\_\_\_

Address for giving notices:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Agent for service of process: \_\_\_\_\_

Telephone No. for Agent

\_\_\_\_\_

**AGREEMENT CERTIFICATE**

**(if Corporation)**

STATE OF            )  
                              )     SS:  
COUNTY OF        )

I HEREBY CERTIFY that a meeting of the Board of Directors of the \_\_\_\_\_

\_\_\_\_\_

a corporation existing under the laws of the State of \_\_\_\_\_, held  
on \_\_\_\_\_, 20 \_\_\_\_\_, the following resolution was duly passed and  
adopted:

“RESOLVED, that \_\_\_\_\_, as  
\_\_\_\_\_ of this  
Corporation, be and is hereby authorized to execute the Agreement dated  
\_\_\_\_\_, 20\_\_\_\_, to the South Valley Water Reclamation Facility by this  
Corporation and that his/her execution thereof, attested by the Secretary of this Corporation,  
and with the Corporate Seal affixed, shall be the official act and deed of this Corporation.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the  
corporation this \_\_\_\_\_, day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Secretary

(SEAL)

**AGREEMENT CERTIFICATE**

**(if Partnership)**

STATE OF                    )  
                                  )     SS:  
COUNTY OF                )

I HEREBY CERTIFY that a meeting of the Partners of the \_\_\_\_\_

\_\_\_\_\_

a partnership existing under the laws of the State of \_\_\_\_\_, held  
on \_\_\_\_\_, 20 \_\_\_\_\_, the following resolution was duly passed and adopted:

“RESOLVED, that \_\_\_\_\_, as  
\_\_\_\_\_ of the  
Partnership, be and is hereby authorized to execute the Agreement dated \_\_\_\_\_,  
20\_\_\_\_, by and between this Partnership and South Valley Water Reclamation Facility by this  
Partnership and that his/her execution thereof, attested by the \_\_\_\_\_ shall be  
the official act and deed of this Partnership.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this \_\_\_\_\_, day of  
\_\_\_\_\_, 20\_\_\_\_.

**AGREEMENT CERTIFICATE**

**(if Joint Venture)**

STATE OF                    )  
                                  )     SS:  
COUNTY OF                )

I HEREBY CERTIFY that a meeting of the Principals of the \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

a joint venture existing under the laws of the State of \_\_\_\_\_, held  
on \_\_\_\_\_, 20 \_\_\_\_\_, the following resolution was duly passed and adopted:

“RESOLVED, that \_\_\_\_\_, as  
\_\_\_\_\_ of the Joint  
Venture, be and is hereby authorized to execute the Agreement dated \_\_\_\_\_,  
20\_\_\_\_, by and between this Joint Venture and South Valley Water Reclamation Facility and  
that his/her execution thereof, attested by the \_\_\_\_\_ shall be the official  
act and deed of this Joint Venture.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this \_\_\_\_\_, day of  
\_\_\_\_\_, 20\_\_\_\_.

## **SECTION 01010 SUMMARY OF WORK**

### **PART 1 – GENERAL**

#### **1.1 THE REQUIREMENT**

- A. The WORK to be performed under this Contract shall consist of furnishing all plant, tools, equipment, materials, supplies, and manufactured articles and furnishing all labor, transportation, and services, including fuel, power, water, and essential communications, and performing all WORK, or other operations required for the fulfillment of the Contract in strict accordance with the Contract Documents. The WORK shall be complete, and all WORK, materials, and services not expressly indicated or called for in the Contract Documents which may be necessary for the complete, safe and proper construction of the WORK in good faith shall be provided by the CONTRACTOR as though originally so indicated, at no increase in cost to the OWNER.

#### **1.2 WORK COVERED BY CONTRACT DOCUMENTS**

- A. The Project consists of the construction of the “South Valley Water Reclamation Facility – Diffuser Replacements”, complete and operational including:
- B. Bioreactor 4:
1. All existing membrane diffusers will be replaced with new membrane diffusers.
  2. All Ceramic Diffusers in Zones OX4 through OX9 will be replaced with new Membrane Diffusers and PVC subplates. OX4 & OX7 (existing zone names) will have the quantity of Diffusers adjusted to match Carollo Engineers recommendations for Project 5.
  3. Pressure wash (min. 2,500 psi) all existing Membrane Diffusers, remove and replace with new. Removed membrane diffusers will be turned over to OWNER.
  4. Perform leak test of diffuser and correct all leaks. Leak test shall be performed with water in the basin and the aeration system turned on.
  5. Provide Field Service Report detailing the work within 1 week of completion of field work.
  6. Provide 10,250 new membrane diffusers & 7,100 new PVC subplates for an expected 144 spare membrane diffusers.
  7. Provide all required silicone grease for membrane diffuser installation.

#### **1.3 CONTRACT METHOD**

- A. The WORK hereunder will be constructed under a unit price contract.

#### **1.4 WORK BY OTHERS**

- A. There may be two or more contracts being performed at one time on the same Site or adjacent land in such a manner that work under one contract may interfere with work under another. The OWNER will determine the sequence and order of the WORK in either or both contracts. When the Site of one contract is the necessary or convenient means of access for performance of work under another, the OWNER may grant privilege of access or other reasonable privilege to the CONTRACTOR so desiring, to the extent, amount, and in manner and at time that the OWNER may determine. No OWNER determination of method or time or sequence or order of the work or access privilege shall be the basis for a claim for delay or damage except under provisions of the General Conditions for

temporary suspensions of the work. The CONTRACTOR shall conduct its operations so as to cause a minimum of interference with the work of such other contractors, and shall cooperate fully with such contractors to allow continued safe access to their respective portions of the Site, as required to perform work under their respective contracts.

#### 1.5 WORK SEQUENCE AND SCHEDULING CONSTRAINTS

##### A. WORK sequence and scheduling constraints are described in Section 01030 – Special Project Constraints.

1. If Schedule A is awarded, the CONTRACTOR may deliver equipment and materials required for that Work as early as possible following the Notice to Proceed.
2. The OWNER shall drain and clean Bioreactor 4 adequately for access to complete the Work.
3. OWNER shall provide access ladders from the walkways into the aeration zones.
4. OWNER shall provide portable pressure washing equipment.

#### 1.6 CONTRACTOR USE OF PROJECT SITE

##### A. The CONTRACTOR's use of the project Site shall be limited to its construction operations, including on-site storage of materials. The CONTRACTOR may stage his work on the concrete driveway leading to the equipment rollup door to Blower Building No.1 and along the road on the south side of Bioreactor 4. Temporary day time staging, Monday through Friday, may be allowed on the concrete approach at the Bioreactor 1-4 Splitter Box. All equipment, material, tool boxes, etc. shall be removed after 7:00 P.M. on all days in which this area is used for temporary staging.

#### 1.7 OWNER USE OF THE PROJECT SITE

##### A. The OWNER may utilize all or part of the existing facilities during the entire period of construction for the conduct of the OWNER's normal operations. The CONTRACTOR shall cooperate and coordinate with the OWNER to facilitate the OWNER's operations and to minimize interference with the CONTRACTOR's operations at the same time. In any event, the OWNER shall be allowed safe access to the Site during the period of construction.

#### 1.8 PARTIAL UTILIZATION OF THE WORK BY OWNER (not used.)

#### 1.9 OUTAGE PLAN AND REQUESTS

##### A. Outage Plans are discussed in Section 1030 – Special Project Constraints

#### 1.5 PROJECT MEETINGS

##### A. Preconstruction Conference

1. Prior to the commencement of WORK at the Site, a preconstruction conference will be held at a mutually agreed time and place. The CONTRACTOR'S Project Manager, its Superintendent, its Safety Representative, and its Subcontractors shall attend the conference as the CONTRACTOR deems appropriate. Other attendees will be:



- a. ENGINEER;
  - b. Representatives of OWNER;
  - c. Governmental representatives as appropriate;
  - d. Others as requested by CONTRACTOR, OWNER, or ENGINEER.
2. The CONTRACTOR shall bring the preconstruction conference submittals in accordance with Section 01300 – Contractor Submittals.
3. The purpose of the conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The complete agenda will be furnished to the CONTRACTOR prior to the meeting date. However, CONTRACTOR should be prepared to discuss all of the items listed below.
  - a. Status of CONTRACTOR's insurance and bonds.
  - b. CONTRACTOR's tentative schedules.
  - c. Transmittal, review, and distribution of CONTRACTOR's submittals.
  - d. Processing applications for payment.
  - e. Maintaining record documents.
  - f. Critical WORK sequencing.
  - g. Field decisions and Change Orders.
  - h. Use of project site, office and storage areas, security, housekeeping, and OWNER's needs.
  - i. Major equipment deliveries and priorities.
  - j. CONTRACTOR's assignments for safety and first aid.
  - k. Contract authority and channels of communication.
  - l. Utilities required for construction.
  - m. CONTRACTOR's preliminary schedule.
  - n. Establishment of emergency contacts.
4. The OWNER will preside at the preconstruction conference and will arrange for keeping and distributing the minutes to all persons in attendance.
5. The CONTRACTOR and its Subcontractors should plan on the conference taking no less than one half working day.

**B. Progress Meetings**

1. The CONTRACTOR shall schedule and hold regular on-site progress meetings at times requested by OWNER or as required by progress of the WORK. The CONTRACTOR, OWNER and all Subcontractors active on the Site must attend each meeting. CONTRACTOR may at its discretion request attendance by representatives of its suppliers, manufacturers, and other subcontractors.
2. The OWNER will preside at the progress meetings and will arrange for keeping and distributing the minutes. The purpose of the meetings will be to review the progress of the WORK, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems which may develop. During each meeting, the CONTRACTOR shall present any issues which may impact its progress with a view to resolving these issues expeditiously.

1.11 SURVEY CONTROL AND REQUIREMENTS (not applicable)

1.12 BUILDING PERMIT (not applicable)

SVWRF DIFFUSER REPLACEMENTS

SUMMARY OF WORK  
PAGE 01010-3

### 1.13 DEFINITIONS APPLICABLE TO TECHNICAL SPECIFICATIONS

A. The following words shall have the defined meaning in the Technical Portions of the WORK:

Indicated	is a word used to direct the CONTRACTOR to information contained on the Drawings or in the Specifications. Terms such as "shown," "noted," "scheduled," and "specified" also may be used to assist in locating information, but no limitation of location is implied or intended.
Furnish	means to supply and deliver to the site, to unload and unpack ready for assembly, installation, testing, and startup.
Install	defines operations at the site including assembly, erection, placing, anchoring, applying, shaping to dimension, finishing, curing, protecting, and cleaning, ready for the OWNER's use.
Provide	is defined as furnish and install, test, adjust, program, and demonstrate proper operation if required by the specification, ready for the intended use.
Installer	a person or firm engaged by the CONTRACTOR or its subcontract or any subcontractor for the performance of installation, erection, or application work at the site. Installers must be expert in the operations they are engaged to perform.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION (NOT USED)**

-END OF SECTION-

**SECTION 01025  
MEASUREMENT AND PAYMENT**

**PART 1 – GENERAL**

**1.1 SCOPE**

- A. Payment for the various items of the Bid Schedule, as further specified herein, shall include all compensation to be received by the CONTRACTOR for furnishing all tools, equipment, supplies and manufactured articles, and for all labor, operations and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the WORK, all in accordance with the requirements of the Contract Documents, including appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the Occupational Safety and Health Administration of the U. S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Bid Schedule(s), and all costs therefore shall be included in the prices named in the Bid Schedule(s) for the various appurtenant items of work.
- B. Unit prices shall be paid based upon installation of membrane diffusers. Costs for removed ceramic diffusers and plugged orifices shall be prorated into the unit costs for installed membrane diffusers.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

-END OF SECTION-

**SECTION 01030  
SPECIAL PROJECT CONSTRAINTS**

**PART 1 – WORK INVOLVED WITH EXISTING PLANT**

**1.1 GENERAL**

- A. The WORK shall be executed while the existing wastewater treatment plant is in operation. Operation of the existing plant shall not be jeopardized nor shall the efficiency of wastewater treatment be reduced as a result of the execution of the WORK.
- B. Critical events in the sequence of construction are described in this Section and shall be utilized by the CONTRACTOR as a guideline. The construction constraints presented are intended to describe the sequence of critical events necessary to minimize disruption to the ongoing treatment plant processes. It shall be understood and agreed by the CONTRACTOR that the critical events described are not all inclusive and that additional items of work not described may be required to minimize disruption and ensure compliance.

**1.2 The construction constraints described herein shall be incorporated into the CONTRACTOR's schedule as described in Section 01311 – Scheduling and Reporting.**

- A. Operational functions or shutdown of portions of the existing plant required to facilitate CONTRACTOR's operation will be done by the plant personnel only.
- B. The plant operation and maintenance personnel will cooperate in every way that is practical in order to facilitate CONTRACTOR's operation.
- C. If it is necessary for the proper operation or maintenance of portions of the plant, the OWNER may require the CONTRACTOR to reschedule an approved shutdown. The CONTRACTOR shall then reschedule his operations so there shall be no conflict with necessary operations or maintenance of the plant.

**1.3 COMPLIANCE WITH UPDES PERMIT**

- A. Operations by the CONTRACTOR shall not impair in anyway the OWNER's responsibility to comply with the facility's UPDES permit requirements.

**1.4 OUTAGE PLANS**

- A. It is the CONTRACTOR's responsibility to coordinate and plan their construction activities in detail and provide such to the OWNER on an as needed or as requested basis by the OWNER or the ENGINEER. Outage plans shall be complete, concise, and provided two week in advance to the OWNER for review.

**1.5 SCHEDULE CONSTRAINTS**

- A. It is the CONTRACTOR's responsibility to coordinate and plan the construction activities to integrate each schedule constraint into performance of the overall WORK.

## 1.6 CONSTRUCTION SEQUENCING

- A. Bioreactor 4: CONTRACTOR shall begin work after the OWNER has drained the bioreactor. Work shall begin and continue in Bioreactor 4 until all membrane work has been completed and ready for leak testing. CONTRACTOR shall get approval of finished diffuser layout in OX4 & OX7 prior to commencing work in those zones. CONTRACTOR shall give OWNER 24-hour notice prior to need for water for leak testing. OWNER shall provide utility water for leak testing and will begin filling 24-hours after request by CONTRACTOR. Filling is anticipated to take 12 hours. CONTRACTOR shall account for filling time in their schedule.
- B. Leak Testing: Leak testing shall occur in the presence of the OWNER or the OWNER's assigned representative. All diffusers shall visually be accepted for no leaks prior to acceptance of the Work by the OWNER. CONTRACTOR shall complete leak testing one aeration grid at a time.

## 1.7 LIQUIDATED DAMAGES AND INCENTIVES

- A. OWNER and CONTRACTOR recognize that time is of the essence for this Agreement and that the OWNER will suffer financial loss if the WORK is not completed by the listed milestones, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by the OWNER if the WORK is not completed on time. Accordingly, instead of requiring any such proof, the OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty), the CONTRACTOR shall pay the OWNER \$100.00 for each calendar day thereafter, until the WORK is ready for use.

## 1.8 SAFETY PLAN

- A. At the Preconstruction Conference, the CONTRACTOR shall submit a Safety, Health and Environmental Action Plan (SHEAP). SVWRF will review the SHEAP to ensure its compatibility with the safety policies of SVWRF. The CONTRACTOR shall address the topics provided on the SVWRF-SHEAP outline (outline is included in appendix to specifications).
- B. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all health safety and environmental issues for his or her employees, including all aspects of on-site construction, operation and activities associated with the contract.
- C. The CONTRACTOR shall provide the following insurance and safety data, for each of the past three years including the current year to date. See form entitled "Job Related Accident Reports" (form is included in appendix to specification)
- D. The CONTRACTOR shall provide a list of employees including employees of subcontractors that will be coming to the SVWRF. Include names, positions and length of service. CONTRACTOR agrees to provide valid photo identifications of all employees and employees of subcontractors that will be coming to the SVWRF and further agrees to allow SVWRF to copy said photo IDs for security and safety use at SVWRF.

## 1.9 GENERAL REQUIREMENTS FOR ALL WORK

- A. During all rehabilitation, modification and demolition work, safe working conditions for the OWNER's and CONTRACTOR's personnel shall be maintained at all times. The

foregoing includes, but is not limited to, proper trench excavation, the provision of temporary equipment guards, supports, warning signs, walkways, covers over openings, hand-railing and protection of electrical equipment and power supply. All temporary facilities shall be constructed in accordance with applicable codes and regulations so that they operate safely and properly. Valves to be temporarily shut off during the WORK shall be tagged as such and shall be wired shut with a crimped lead seal and padlocked. Electrical and mechanical equipment shall be similarly shut down.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

-END OF SECTION-

## **SECTION 11500 – BLOWERS AND COMPRESSORS, GENERAL**

### **PART 1 GENERAL**

#### **1.1 THE REQUIREMENT**

- A. The CONTRACTOR shall provide the fine bubble membrane diffusers as indicated, complete and operable in accordance with the Contract Documents.
- B. The CONTRACTOR shall assign to a single SUPPLIER full responsibility for the furnishing and functional operation membrane diffuser(s).

#### **1.2 SUPPLIER'S SERVICES**

- A. The SUPPLIER shall assist with the correct installation and adjustment of equipment. The SUPPLIER shall have at least 5 years experience with manufacturing low pressure membrane diffusers.

#### **1.3 CONTRACTOR SUBMITTALS**

- A. Prior to release for manufacture of equipment, the CONTRACTOR shall submit shop drawings of all membrane diffusers, including:
  - 1. Descriptive literature and dimensional drawings,
  - 2. Performance curves: Headloss vs Air Rate, Oxygen Transfer vs Submergence,
  - 3. Installation instructions,
  - 4. Membrane diffuser specifications showing material properties and test procedures.
- C. Certification: The CONTRACTOR shall obtain written certification from the designated single manufacturer, addressed to the OWNER, stating that the MANUFACTURER recognizes the CONTRACTOR's experience with membrane diffusers and accepts CONTRACTORS's assignment of full responsibility for installation of membrane diffusers. CONTRACTOR shall submit all such certificates to the OWNER.
- D. Field Test Report: Upon completion of installation & successful leak testing, provide a typed and written report relating to the completion of the Work, decisions made, final layouts for OX4 & OX7, difficulties during the Work, solutions to issues addressed, and pictures as necessary of the completed Work.

#### **1.4 GUARANTEES, WARRANTIES**

- A. After completion, the CONTRACTOR shall furnish to the OWNER the manufacturer's written guarantees, that the equipment will operate with the published efficiencies, heads, and flow ranges and meet these specifications. The CONTRACTOR shall also furnish the manufacturer's warranties as published in its literature.

## **PART 2 – PRODUCTS**

### **2.1 GENERAL**

- A. All materials, parts, equipment specified herein shall be furnished new, unused, and in undamaged condition by the CONTRACTOR.

### **2.2 MATERIALS**

- A. Diffuser Elements: The membrane diffusers shall be a 9" diameter disc style, made to fit into the existing Sanitaire manufactured PVC membrane holders and shall diffuse air in a fine bubble form into the mixed liquor suspended solids.
- B. EPDM Membrane Diffuser Discs and Gaskets: Circular membrane diffusers shall have an integral o-ring of EPDM synthetic rubber compound with precision die formed slits.

Base Polymer EPDM with Carbon Black for UV protection.

Tensile Strength 1200 psi min unperforated

Durometer 58% +/-5%

Modulus of Elasticity @ 300% 500 psi

Dynamic Wet Pressure 5-6" w.c. at 1 SCFM @ 2" w.c.

Material Thickness 0.080"

Ozone Resistance 72 hrs, 40 deg-C, 50pphm No cracks @ 2X magnification

Elongation % Retained 70 hrs @ 100 deg-C 75% max

Elongation at Break 350% min

- C. Acceptable Manufacturers: Aquarius Technologies, LLC, 420 Technology Way, Suite D Saukville, WI 53090 (262) 268-1500. Substitutions will not be allowed.

## **PART 3 – EXECUTION**

### **3.1 INSTALLATION**

- A. CONTRACTOR shall verify that the membrane diffusers are installed per the manufacturer's recommendations and that all shop drawings and submittals are completed and provided to the OWNER.
- C. All membrane diffusers shall be installed using silicone grease applied to the entire surface of o-rings.
- B. Bioreactor 4 shall be filled to a level no more than 1-ft above the tops of the membrane diffusers. Process air shall be supplied to all diffusers in the tank. The surface above the diffusers shall then be visually inspected to insure that air flow is uniformly distributed in the tank and is going thru the diffusers. Any leaks around o-rings shall be corrected.

-END OF SECTION-