LAS VIRGENES - TRIUNFO
JOINT POWERS AUTHORITY
AGENDA

4232 Las Virgenes Road, Calabasas, CA 91302

CLOSING TIME FOR AGENDA IS 8:30 A.M. ON THE TUESDAY PRECEDING THE MEETING. GOVERNMENT CODE SECTION 54954.2 PROHIBITS TAKING ACTION ON ITEMS NOT ON POSTED AGENDA UNLESS AN EMERGENCY, AS DEFINED IN GOVERNMENT CODE SECTION 54956.5 EXISTS OR UNLESS OTHER REQUIREMENTS OF GOVERNMENT CODE SECTION 54954.2(B) ARE MET.

5:00 PM October 1, 2018

PLEDGE OF ALLEGIANCE

1 CALL TO ORDER AND ROLL CALL

2 APPROVAL OF AGENDA

3 PUBLIC COMMENTS

Members of the public may now address the Board of Directors **ON MATTERS NOT APPEARING ON THE AGENDA**, but within the jurisdiction of the Board. No action shall be taken on any matter not appearing on the agenda unless authorized by Subdivision (b) of Government Code Section 54954.2

4 CONSENT CALENDAR

A Minutes: Special Meeting of September 5, 2018 (Pg. 3)

Approve.

5 ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A LVMWD 60th Anniversary Recognition of Partner in Service: Triunfo Sanitation District

B Pure Water Project Las Virgenes-Triunfo: Update

6 ACTION ITEMS

A Tapia Process Air Improvements Project: Reject All Bids (Pg. 8)

Reject all bids for the Tapia Process Air Improvements Project.

B Pure Water Demonstration Project: Equipment Purchase (Pg. 11)

Accept the bids from H2O Innovations and Xylem Wedeco, and authorize the Administrating Agent/General Manager to issue purchase orders, respectively, in the amount of $498,563 plus applicable taxes, for the purchase of ultra-filtration and

reverse osmosis equipment and, in the amount of $136,000 plus applicable taxes, for the purchase of the ultra-violet light disinfection equipment for the Pure Water Demonstration Project.

7 BOARD COMMENTS

8 ADMINISTERING AGENT/GENERAL MANAGER REPORT

9 FUTURE AGENDA ITEMS

10 INFORMATION ITEMS

A State and Federal Legislative Update (Pg. 56)

B Tapia Water Reclamation Facility Fiscal Year 2017-18 Rehabilitation Project: Change Order No. 2 (Pg. 71)

C Replacement of Tapia Primary and Secondary Clarifier Drive Equipment: Authorization of Purchase Order (Pg. 78)

D Tapia Tertiary Filter Media Replacement: Authorization of Purchase Order (Pg. 86)

11 PUBLIC COMMENTS

Members of the public may now address the Board of Directors **ON MATTERS NOT APPEARING ON THE AGENDA**, but within the jurisdiction of the Board. No action shall be taken on any matter not appearing on the agenda unless authorized by Subdivision (b) of Government Code Section 54954.2

12 CLOSED SESSION

A Conference with Legal Counsel – Existing Litigation (Government Code Section 54956.9(a)):

Zusser Company, Inc. v. Las Virgenes Municipal Water District

13 ADJOURNMENT

Pursuant to Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and applicable federal rules and regulations, requests for a disability-related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting, should be made to the Executive Assistant/Clerk of the Board in advance of the meeting to ensure availability of the requested service or accommodation. Notices, agendas, and public documents related to the Board meetings can be made available in appropriate alternative format upon request.

LAS VIRGENES – TRIUNFO
JOINT POWERS AUTHORITY
MINUTES
SPECIAL MEETING

5:00 PM September 5, 2018

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance to the Flag was led by Colin O'Neill.

1. CALL TO ORDER AND ROLL CALL

The meeting was called to order at **5:00 p.m.** by Chair Peterson in the Conference Room at Oak Park Library, 899 Kanan Road, in Oak Park, California. Josie Guzman, Clerk of the Board, conducted the roll call.

Present: Directors Caspary, Lewitt, Orkney, Pan, Peterson, Polan, Renger, Tjulander, and Wall.
Absent: None

2. APPROVAL OF AGENDA

Director Tjulander moved to approve the agenda. Motion seconded by Director Wall. Motion carried unanimously.

3. PUBLIC COMMENTS

None.

4. CONSENT CALENDAR

A Minutes: Regular Meeting of August 6, 2018

Director Caspary moved to approve the Consent Calendar. Motion seconded by Director Orkney. Motion carried unanimously.

5. ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A Pure Water Project Las Virgenes-Triunfo: Update

David Lippman, Director of Facilities and Operations, reported that staff was working on submitting the Title XVI Feasibility Study to the U.S. Bureau of Reclamation, which if approved would allow the JPA to compete for Title XVI construction funds. He stated that staff would provide a presentation regarding the Title XVI Feasibility Study at the November 5th JPA meeting. Mr. Lippman also reported that staff submitted a proposal to the Secretary of the Army to include the Pure Water Project Las Virgenes-Triunfo in the annual report to Congress for the Water Resources Reform and Development Act (WRDA). He noted that WRDA projects are managed by the Army Corps of Engineers who design, build, and operate the facilities, and the brine line would be the focus of this study. Mr. Lippman also reported that staff was working on submitting an application for a $1 million grant to the Coastal Conservancy and the Santa Monica Bay Restoration Commission for Proposition 12 Safe Neighborhoods, Parks, Clean Water, Clean Air, and Coastal Protection Bond Act of 2000 funds for the Pure Water Demonstration Project. Mr. Lippman also reported that staff submitted an application to the Metropolitan Water District of Southern California (MWD) for its Future Supply Actions Funding Program. He stated that the JPA's request was to provide up to a 50 percent match to pilot the use of artificial intelligence and machine learning at the Demonstration Project, which could provide predictive controls by analyzing and projecting data trends rather than relying on hindsight-based decisions based on analyzing historical data. Mr. Lippman also reported that design work continued on the Demonstration Project, and a kickoff meeting would be held to focus on the demonstration garden. He noted that the ASTOUND Group was recently engaged to assist with developing the concepts for the visitors' experience.

6. ACTION ITEMS

A Tapia Process Air Pipeline Repair: Award

Waive the formal bidding process; find that WEKO-SEAL must be designated by specific trade name to obtain the necessary items and services that are only available from one source; and authorize the Administering Agent/General Manager to execute a contractual service agreement with Miller Pipeline, in the amount of $94,550, to complete the repair of the Tapia process air pipeline.

Administering Agent/General Manager David Pedersen presented the report.

Director Renger moved to approve Item 6A. Motion seconded by Director Caspary.

David Lippman, Director of Facilities and Operations, responded questions related to the warranty for materials and labor; the material used for a WEKO-SEAL that is manufactured to fit the inside diameter of the pipeline; debris build up found in pipes that may have come from the laterals; possible future relining of the entire pipeline; having Miller Pipeline inspect the pipeline in one year; looking into the

possibility of installing a filter in the system to prevent particulate matter that is migrating into the pipe from blocking the air supply diffusers; and mitigating future corrosion.

Authority Counsel Keith Lemieux responded to a question regarding designating WEKO-SEAL by trade name by confirming that it is legally allowable under the Public Contract Code Section 3400.

Motion carried unanimously.

B Rancho Lighting Efficiency Upgrade Project: Award

Accept the proposal from Retro-Tek Energy Services, Inc.; authorize the Administering Agent/General Manager to execute a contractual agreement, in the amount of $299,971; and appropriate $362,968 for the Rancho Lighting Efficiency Upgrade Project.

Administering Agent/General Manager David Pedersen presented the report.

Director Polan moved to approve Item 6B. Motion seconded by Director Renger.

John Zhao, Principal Engineer, responded to a question regarding whether the lighting fixtures would be specified and their lifecycle by stating that staff worked with The Energy Network to identify the best fixtures for the project. He also stated that the fixtures would have a minimum warranty of 50,000 hours, which would typically be 10 years with regular use.

Mr. Zhao also responded to a question regarding whether the lighting efficiency upgrades at the Tapia Water Reclamation Facility and Headquarters had achieved the projected savings by stating that he had not yet reviewed the electricity consumption nor conducted a comparison. Chair Peterson requested that staff report back regarding the energy savings.

Administering Agent/General Manager David Pedersen responded to a question regarding appropriating funds for projects that are inadvertently not included in the budget by stating that typically staff would not recommend the Board move forward with a project that was not included in the budget. He stated that each year there are a few budgeted projects that do not move forward, and staff felt comfortable the JPA could accommodate this project given the capital improvement project portfolio for the year. Chair Peterson suggested staff include an update on capital improvement projects when preparing the next quarterly financial report.

Director Caspary expressed an interest in receiving a report on the existing facilities that have been rehabilitated to confirm the energy savings projection.

Motion carried unanimously.

7. BOARD COMMENTS

None.

8. ADMINISTERING AGENT/GENERAL MANAGER REPORT

Administering Agent/General Manager David Pedersen noted that a spreadsheet was provided to the Board listing the most influential people in the JPA service area. He stated that the objective would be to send information on a monthly basis regarding the Pure Water Project Las Virgenes-Triunfo, and he asked the Board to advise staff whether any other people should be included on the list.

9. FUTURE AGENDA ITEMS

None.

10. INFORMATION ITEMS

A State and Federal Legislative Update

B Digester No. 1 Rehabilitation Project: Final Acceptance

11. PUBLIC COMMENTS

Chair Peterson congratulated Lynda Lo-Hill on her election and Directors Jay Lewitt and Lee Renger on their reelection to the Las Virgenes Municipal Water District Board of Directors. He also congratulated Directors Janna Orkney, Susan Pan, and Ray Tjulander on their reelection to the Triunfo Sanitation District Board of Directors.

12. CLOSED SESSION

A Conference with Legal Counsel – Existing Litigation (Government Code Section 54956.9(a)):

Zusser Company, Inc. v. Las Virgenes Municipal Water District

The Board recessed to Closed Session at **5:30 p.m.,** and reconvened to Open Session at **5:55 p.m.**

Authority Counsel Keith Lemieux announced there was no reportable action.

13. ADJOURNMENT

Seeing no further business to come before the Board, the meeting was duly adjourned at **5:55 p.m**.

Glen Peterson, Chair

ATTEST:

Janna Orkney, Vice Chair

October 1, 2018 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Tapia Process Air Improvements Project: Reject All Bids

SUMMARY:

On July 11, 2018, the JPA Board authorized a call for bids for the Tapia Process Air Improvements Project. The scope of work consists of replacing the existing blowers and aeration basin air diffusers, which have reached the end of their useful life. In addition to addressing the replacement need, the new equipment will also provide a substantial cost-savings to the JPA through improved energy efficiency. Process air is used at the Tapia Water Reclamation Facility to support the treatment processes, which requires air for mixing, oxygen transfer for biological treatment and filter backwashing.

Mandatory pre-bid job walks were held on August 8 and 16, 2018. Six bids were received and publically opened on September 11, 2018. The apparent low bid was submitted by Mehta Mechanical Company, Inc. (MMC), in the amount of $4,204,000 which is approximately 8% higher than the Engineer's Estimate of $3,887,417 for the project.

While the bids received were found to be competitive, they were significantly higher than the Engineer's Estimate for the work and exceeded the current budget for the project. Staff and representatives from Pacific Advanced Civil Engineering, Inc. (PACE), the design engineering firm, evaluated the bids and noted a significant difference between the Engineer's Estimate and the bid amounts for the electrical work included in the project. The Engineer's Estimate for the electrical work was approximately $500,000, while the bids received for the same averaged close to $1,500,000. Staff and PACE representatives contacted the electrical subcontractors listed in the bids to determine the cause for the higher costs. It was determined that none of the electrical subcontractors had visited the site prior to bidding and that there was uncertainty associated with the electrical scope of work. The uncertainty was observed to be consistent across all bids received because the same electrical subcontractors were listed by several of the general contractors.

As a result, staff recommends that the Board reject all bids. Staff proposes to revise the bid documents prior to returning to the JPA Board to recommend a new call for bids. Strategies to reduce uncertainty on the electrical work may include clarifying the plans and specifications and/or requiring the electrical subcontractors participate in a mandatory pre-bid job walk. The overall project timing is critical in order to maintain the JPA's eligibility for Southern California Edison (SCE) incentives, which expire March 24, 2020. As such, staff may also propose alternatives to expedite project completion such as pre-purchasing the equipment (blowers and diffusers) to avoid the potential impact of long lead times for procurement.

RECOMMENDATION(S):

Reject all bids for the Tapia Process Air Improvements Project.

FISCAL IMPACT:

No

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

There is no financial impact associated with the rejection of bids.

The adopted Fiscal Year 2018-19 JPA Budget provides funding for the project in the amount of $3,293,418. An additional appropriation is expected to be needed to fund the total project costs, including the construction contract, a 10% contingency, repair of the process air pipeline, engineering services during construction, and general and administrative costs. Staff will propose an additional appropriation when the project is recommended for award after re-bidding.

DISCUSSION:

Following is a summary of the bids received:

Mehta Mechanical Company, Inc. (MMC)	$4,204,000
PCL Construction, Inc.	$4,574,835
Pacific Hydrotech Corp	$4,960,880
Spiess Construction Co., Inc.	$4,993,500
GSE Construction	$5,124,900
Green Building Corp	$5,586,847

While the recommendation is to reject all bids, staff proposes to proceed expeditiously to clarify the scope of the electrical work and rebid the project in light of the following time-related factors:

- Southern California Edison (SCE) incentives are available for the project, in the amount of $155,350.39; however, these rebates expire on March 24, 2020. Construction work must be completed by this date along with the submittal of project-related energy reduction calculations, invoices and installation reports.

- The new process air equipment will provide an estimate annual cost-savings of $156,124 to the JPA. Delaying the project would delay the JPA's ability to realize these cost savings.

- The pre-selection of equipment (Sulzer ABS air blowers and OTT North America air diffusers) was based on a competitive process, and the fixed fee offered by the vendors could increase if the project is significantly delayed.

- During the bidding process, tariffs for material associated with the diffusers, specifically stainless steel, increased in cost by approximately 10% to 20%. OTT North America has informed staff that the tariffs would increase the diffusers cost by approximately $15,000 to $30,000. Delaying the procurement of equipment and materials for the project could increase the cost of the project due to the additional tariffs that may be imposed in the future.

- Due to the age of the existing blowers and diffusers, a significant investment could be required to keep them operational if they are not replaced timely.

Staff will make the appropriate revisions to the plans and specifications to clarify the scope of the electrical work and recommend the re-bid of the project expeditiously to reduce the overall cost of the project.

Prepared by: Eric Schlageter, P.E., Senior Engineer

October 1, 2018 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Pure Water Demonstration Project: Equipment Purchase

SUMMARY:

On June 26, 2018, the LVMWD Board, acting as Administering Agent of the JPA, waived formal bidding requirements and authorized an informal, competitive process for procurement of the treatment equipment for the Pure Water Demonstration Project. The treatment equipment is unique in a variety of ways that warrant the use of an informal bidding process. The equipment is unique in size and flowrates, must be flexible to allow for testing, requires a proven performance track record and must be available on a short schedule for project completion. Based on Carollo Engineers' experience, there are limited number of firms that can provide the treatment equipment suitable for use under these circumstances.

Carollo developed specifications for the ultra-filtration, reverse osmosis and ultra-violet light disinfection systems and sent them to firms known to have the ability to provide the necessary equipment. After a series of clarifications, the following informal bids were received:

Firm	UF/RO & Chemical Systems	UV System
H2O Innovations	$498,563	
Biwater	$512,000	
TrojanUV		$154,900
Xylem Wedeco		$136,000

Staff recommends accepting the bids from H2O Innovations and Xylem Wedeco and authorizing the Administering Agent/General Manager to issue purchase orders for purchase of the demonstration project equipment.

RECOMMENDATION(S):

Accept the bids from H2O Innovations and Xylem Wedeco, and authorize the Administrating Agent/General Manager to issue purchase orders, respectively, in the amount of $498,563 plus applicable taxes, for the purchase of ultra-filtration and reverse osmosis equipment and, in the amount of $136,000 plus applicable taxes, for the purchase of the ultra-violet light disinfection equipment for the Pure Water Demonstration Project.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The total cost of the treatment equipment is $694,846, which includes estimated sales tax of 9.5%. Sufficient funds are available in the adopted Fiscal Year 2018-19 Budget for the equipment purchase. The JPA received a $300,000 grant from the U.S. Bureau of Reclamation for the demonstration project and recently applied for a $1,000,000 Proposition 12 grant from the California Coastal Conservancy/Santa Monica Bay Restoration Commission for the project.

DISCUSSION:

Background:

Agencies in California that have undertaken potable reuse projects have constructed and operated pilot or demonstration projects before proceeding with a full-scale facility. The demonstration projects vary in size and generally have three primary objectives: (1) treatment technique validation and research, (2) public outreach/acceptance and (3) operator training. The JPA shares these objectives for its Pure Water Demonstration Project.

On February 5, 2018, the JPA Board approved a proposal from Carollo Engineers to provide five basic tasks associated with the demonstration project: design services; operations, testing and research assistance; services during construction; start-up; and transitional operation assistance and tasks applicable to all areas. Several workshops were held with the Board to discuss the purpose, benefits and need for the demonstration project; clarify the Board's vision for the project; and receive feedback on the proposed design and structure of the visitor experience. The next workshop with the JPA Board is scheduled for December 3, 2018, when the design team will present the 60% architectural and landscaping plans together with ideas for the visitor experience.

Treatment Equipment:

The treatment equipment for the demonstration project is unique in a variety of ways that warrant the use of an informal bidding process. The equipment is unique in size and flowrates, must be flexible to allow for testing, requires a proven performance track record and must be available on a short schedule for project completion. Based on Carollo Engineers' experience, there are limited number of firms that can provide treatment equipment suitable for use under these circumstances. Rather than having a general contractor purchase and mark up the equipment, staff proposes that the JPA purchase the equipment directly and turn it over to a general contractor that will be selected by competitive bid for installation of the equipment. With selection and procurement of the equipment, design of the demonstration process can accelerate as the layout and configuration of key components will be known.

Bidding Process:

The process units for the demonstration project include ultra-filtration, reverse osmosis and

ultra-violet light disinfection, along with ancillary chemical addition systems and instrumentation. Three firms were contacted to provide bids for the ultra-filtration/reverse osmosis systems: Biwater, H2O Innovations, and Harn. Harn declined to bid due to resource limitations. Biwater's bid pricing was $512,000 and H2O Innovation's was $498,562. H2O Innovations proposed its FiberFlex universal membrane pilot system, which is capable of demonstrating the capabilities of up to three separate pressurized membrane products. The reverse osmosis unit proposed by H2O Innovations consists of 4-inch pressure vessels in a three-stage configuration.

Three firms were contacted to provide bids for the ultra-violet light disinfection unit: TrojanUV, Xylem Wedeco and Calgon. Calgon did not have a reactor that would fit the project specifications. Xylem Wedeco provided a bid price of $136,000, and Trojan provided a bid price of $154,900. Xylem Wedeco proposed to provide its SPEKTRON 30e UV AOP skid-mounted unit (base option plus instrumentation shown as Option 2). Option 2 includes pH, chlorine and ultra-violet light transmittance analyzers and monitors.

Carollo Engineers representatives will attend the Board meeting and be available to address any specific questions related to the proposed equipment purchase. Attached for reference are copies of the bid proposals submitted by H2O Innovations and Xylem Wedeco.

Prepared by: David R. Lippman, P.E., Director of Facilities and Operations

ATTACHMENTS:

Bid Proposals by H20 Innovations and Xylem Wedeco

UF-RO SYSTEM PROPOSAL FOR THE LAS VIRGENES-TRIUNFO PURE WATER DEMONSTRATION PROJECT

Project Name: Las Virgenes Pure Water Demo **Date:** September 18, 2018

Proposal number: PR308 **Revision Number:** 01

Submitted To:
Carollo Engineers, Inc.

5355 Mira Sorrento Place, Suite 270
San Diego, CA 92121

Submitted by:
Naomi Jones, Systems Sales Engineer
H2O Innovation

1048 La Mirada Court
Vista, CA 92081
760-598-2206 x105
Naomi.jones@h2oinnovation.com

TABLE OF CONTENTS

SECTION 1 – EXECUTIVE SUMMARY

H2O Innovation is pleased to offer UF and RO pilot units for the Las Virgenes Municipal Water District – Triunfo Pure Water Demonstration Project. Our approach to make this offer the most convenient and cost effective for the end user is to propose two units of the same design which have been completely pre- engineered. The “Apple Pie” FiberFlex pilot and the three-stage RO pilot used at the DC Tillman Facility are the basis of design. These systems have been through a thorough submittal process and meet the stringent standards required for a high quality pilot system. While the proposed systems meet the intent of the specification, there may be some slight differences between what is offered and what is listed in the specification documents. In order to provide a comprehensive overview of what will be provided for in this offer, we have included the general arrangement drawings, process and instrumentation diagrams and bill of materials (equipment, instrumentation and valves) for each system in the appendices. If there are any items that are critical to the specific requirements that do not match up with our proposed offer, we are happy work with the Engineer /Client to provide these items at a cost plus rate to provide the most value for the end-user.

Please send any questions on this proposal directly to Naomi Jones, System Sales Engineer at (760) 598-2206 x105 or at naomi.jones@h2oinnovation.com.

SECTION 2 – FIBERFLEX™ ULTRAFILTRATION (UF) PILOT

H2O Innovation is pleased to offer our FiberFlex™ Universal Membrane Pilot System capable of demonstrating the capabilities of up to three separate pressurized membrane products. This configuration allows a client to pilot test modules from different manufacturers under the same conditions side by side with a single pilot system. One pilot system means fewer rental agreements, smaller footprint, one set of pilot connections and a single point of contact for support.

The FiberFlex™ pilot has been engineered to accommodate the operation parameters of the various UF membrane products with minor changes in the PLC settings. There are three designated membrane positions that can be assigned to specific pressurized hollow fiber membrane products. The pilot equipment platform is based upon H_2O Innovation's FiberFlex™ rack design which has been developed to accommodate a multitude of pressurized membrane products.

H_2O Innovation's FiberFlex™ is physically designed to accommodate the following types of hollow fiber modules (by alphabetical order):

- Asahi UNA 620
- CSM HTFS 7090
- Dow 2860, 2880, IntegraFlo-S and IntegraFlo-L
- Econity PF-90M
- Hydranautics Hydracap Max 80 and Hydracap Max 60
- LG HFP-05A and HFP-07A
- Memstar 1015E
- Scinor SMT600-P72
- Toray HFS-2020 and HFU-2020N
- ZeeWeed-1500

Our FiberFlex™ piloting system is a proven design with a successful track record of operation. The West Basin Universal Pilot system (shown below) has been running successfully since September 2015 at the Edward C. Little Water Recycling Facility

.

The Lebanon Pilot study (shown below) ran January 15th 2016 to August 4, 2016 and was performed by Carollo Engineers. This test included the Toray HFU-2020, Dow 2880 and Hydranautics HydraCAP Max 80 modules running simultaneously using enhanced coagulation.

Appendix A provides general arrangement drawings for the pilot unit, including relevant dimensions and approximate equipment shipping weights. P&IDs have been included in Appendix B for reference purposes.

SECTION 3 REVERSE OSMOSIS (RO) PILOT

The same RO pilot design proposed here has been provided to the City of Los Angeles' Bureau of Sanitation for testing at the DC Tillman Ground Water Replenishment Advanced Water Purification Facility Pilot Project (shown below). A new pilot of the same design would be supplied for the Las Virgenes-Triunfo Pure Water Demonstration Project. The DC Tillman RO pilot system has been operational since May 2016 with no modifications or equipment issues.

The RO pilot design includes three stages in a 4:2:1, 7M array using 4" pressure vessels. Permeate throttling using diaphragm valves on the first and second stage allows for fine tuning of permeate flow to balance flux through the first two stages. An interstage boost pump is used on the feed side of the third stage to provide boost pressure and set the feed flow going into the final stage. A manual concentrate control valve is used on the third stage concentrate to set the recovery. Pressure, flow, conductivity and temperature measurements are taken to normalize RO performance for analysis.

Appendix A provides general arrangement drawings for the pilot unit, including relevant dimensions and approximate equipment shipping weights. P&IDs have been included in Appendix B for reference purposes.

SECTION 4 – UF SYSTEM DESCRIPTION

4.1 EQUIPMENT DESCRIPTION

Equipment, instrumentation and valve lists are included in the appendices to provide details on make, model and type of items provided in the scope of supply. The UF pilot will include the following equipment:

- Automatic strainer
- Feed tank
- Membrane feed pump
- Backpulse pump and tank
- Three UF module positions - each position can accommodate multiple module brands and or models. (Note: the supply of modules is not included)
- One (1) feed turbidity meter (HACH TU5300 laser turbidity meter)
- Three (3) permeate turbidity meters (HACH TU5400 laser turbidity meter), one per module
- Compressor package (receiver, motor, dryer) and valves and accessories for MIT, air scour and instrument air
- CIP tank with heater
- CIP pump
- Membrane feed/cleaning /neutralization dosing pumps and associated equipment. A total of seven dosing pump systems are provided. Chemical tanks are assumed to be by others, supplied as 55 gal drums or totes.
    - Sodium hypochlorite (UF feed)
    - Aqueous ammonia (UF feed)
    - Sodium hypochlorite (MC/CIP)
    - Citric acid (MC/CIP)
    - Sulfuric acid (MC/CIP)
    - Sodium hydroxide (MC/CIP and neutralization)
    - Sodium bisulfite (neutralization)
- PLC/HMI system and recording of following data (no storage):
    - Feed and permeate flow rate
    - Backpulse flow rate
    - Separate feed and permeate pressures of each proposed membrane module
    - Feed temperature
    - Feed turbidity
    - Separate permeate turbidity readings for each proposed module
    - Membrane Integrity starting pressure and associated pressure decay rate through the permeate pressure transmitter for each proposed module
- Electrical requirements: 480V/3Ph/60Hz, 60A
- All equipment assembled and mounted onto epoxy coated carbon steel frame
- Two (2) days for Factory Acceptance Testing (FAT) at H2O Innovation facility (Champlin, MN)
- On-site service (commissioning and start-up):
    - Membrane module installation (modules not provided)
    - System installation inspection and verification
    - 24 hours on-site operator training, in two trips
    - 40 hours installation and start-up activities, excluding travel

- Service visits:
  - One (1) day site visit during one year warranty period
  - One (1) day site visit six (6) months after final acceptance
  - One (1) day service and performance review visit twelve (12) months after final acceptance
  - Two (2) day training six (6) months after performance test
- General items:
  - One (1) year standard warranty (see Terms & Conditions)
  - Submittals:
    - Process & Instrumentation Diagrams
    - General Arrangement Drawings
    - Equipment List & Cut Sheets
    - Instrument List & Cut Sheets
    - Valve List & Cut Sheets
    - O&M Manual

Feed water into the pilot unit is assumed to be by others. A feed water supply of 25 psi minimum is required. Note that if an additional feed pump (by others) is powered through the pilot's control panel, an 80A service would be required.

A FiberFlex™ universal UF pilot brochure has been included in the appendices for reference. The brochure outlines basic installation and utility/power requirements.

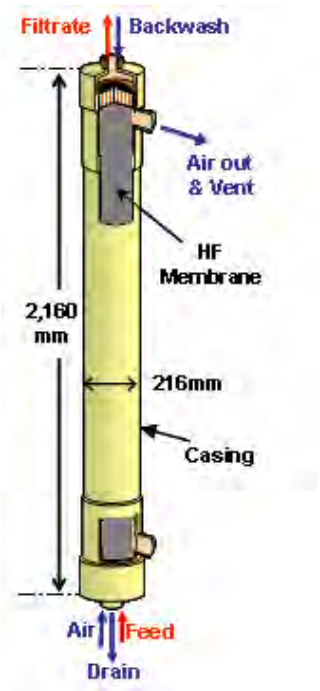
4.2 OPERATION DESCRIPTION

The FiberFlex™ ultrafiltration pilot system facilitates maximum flexibility during piloting operation. To highlight a few features of the pilot system, the FiberFlex™ pilot allows:

- An individual module to be backwashed while the remaining modules continue production

- An individual module to be chemically cleaned while the remaining modules continue production
- MITs to be routinely performed. MITs are scheduled separately for each membrane module on the HMI.

Feed water is pumped from the feed tank to the membrane modules at a maximum feed pressure of 45 psi. Chemical dosing pumps have been provided to facilitate pretreatment requirements. Particulate matter, including virus, ***Giardia*** cysts and ***Cryptosporidium*** oocysts, remain on the outside of the membrane fiber while permeate goes through to the inside of the hollow fibers and exits the top port of the membrane module. The filtration cycle continues for approximately 30-45 minutes, depending on recovery and flux. The filtration cycle for each module will vary according to the recovery and flux of the individual UF membrane modules. After each filtration cycle, particulates and suspended solids are removed from the cycled module using a backwash cycle. In the backwash cycle, feed to the cycled module stops and filtrate from the backpulse supply tank is directed into the hollow fibers for approximately 30 – 60 seconds. The remaining two UF membrane modules may continue to operate through their individual cycles while the offline module is backwashed. The top-side port is open allowing the excess water to overflow to drain. Next, air bubbles scour the membranes for 60 seconds and then the module is drained. The overall backwash cycle requires approximately 3.5 minutes.



Additionally, maintenance cleans (MC) may be performed from once a week to twice a day depending on the application. MCs are initiated after the backwash cycle and involve recirculating and soaking the membranes in a concentrated chemical solution for approximately 20 minutes. The cleaning solution is directed back to the CIP tank and the fully automatic neutralization sequence is initiated. Upon the completion of the neutralization sequence the solution can be sent to disposal. The overall maintenance cleaning cycle requires approximately 30 minutes (excluding neutralization, if required).

Recovery cleans (RC), or CIPs, are performed when the transmembrane pressure (TMP) approaches the maximum allowed on the membrane (between 30 and 40 psi). The FiberFlex Pilot has the ability to perform separate recovery cleans on any of the proposed membrane modules when the TMP setpoint of the particular module has been reached or upon a predefined cleaning interval. RCs are similar to maintenance cleans except the soak period is longer and the chemical concentration is higher. The solution may also be heated to 40°C to enhance the cleaning efficiency. Typical duration for a recovery clean is six hours. Recovery cleans are manually initiated but remain fully automatic operation.

On applications where required, membrane integrity tests (MITs) are performed by pressurizing the module with compressed air on the feed side of the fiber at a pressure of 18 psi. Once the

water has been purged from the system the pressure in the module is monitored and recorded to evaluate the membrane integrity. At the end of the test the air is purged and the system returns to normal operation. The test lasts approximately 15 minutes. The log removal value (LRV) of the membrane is then calculated for the integrity test based on the pressure decay and operating parameters.

The data logging for the membrane flux and transmembrane pressure will be centered around the backwash events. For each backwash, the system will log the flow and pressure a few minutes before the backwash, during the backwash and a few minutes after the backwash. This will provide insight into the performance of the backwash cycle and help in the optimization of the system. Parameters such as turbidity (feed and permeate) and feed water temperature will be logged continuously every 15 minutes.

The pilot will operate at a feed flow rate between 100 and 150 gpm depending upon the flux rate desired and membranes selected. Feed flow into the pilot of appropriate quantity and pressure (min pressure of 25 psi) is provided by others. Like a full scale facility, the pilot will operate in dead-end mode. In other words, during filtration all of the feed water is converted to permeate and there is no waste generated by the system. The backwash waste is only generated intermittently during the backwash.

The recovery will be maintained constant at the desired setpoint however the FiberFlex Pilot has the capability to set different recovery setpoints for each of the proposed UF membrane modules if so desired. The recovery setpoint will drive the actual duration of the production cycle of a particular module. Anticipated filtered water quality in terms of turbidity is less than 0.15 NTU 100% of the time and less than 0.1 NTU 95% of the time. On a daily basis, the system would undergo a MIT, confirming greater than 4-log removal of ***Cryptosporidium*** and ***Giardia***.

SECTION 5 – RO SYSTEM DESCRIPTION

The proposed RO pilot is a three-stage BWRO system using pilot scale membranes to mimic the hydraulic conditions of a full-scale RO system. Feed water will be UF filtered tertiary effluent from Las Virgenes-Triunfo Tapia Water Reclamation Facility. The upstream UF will reduce influent turbidity to below 0.2 NTU and SDIs below 3, making effluent suitable for RO feed. The UF backwash tank will serve as the break tank between the UF and RO systems from which the RO skid will draw water. The RO train and RO CIP will be on a single skid and will be independently operated from the UF system.

Equipment, instrumentation and valve lists are included in the appendices to provide details on make, model and type of items provided in the scope of supply. The RO system will include the following scope:

- Raw water booster pump
- Cartridge filter housing with 5 um filters
- Antiscalant dosing system, including 30 gal tank, dosing pump, on-skid piping and valves

- Acid dosing system for RO feed pH control, including dosing pump, on-skid piping and valves (bulk storage tank by others)
- RO feed high pressure pump (HPP) with VFD
- Pressure vessels, 4", 7M (4:2:1 array)
- 49 RO membranes, 4" diameter
- Permeate throttling valve on first stage
- Interstage booster pump between second and third stage with VFD
- Sodium hypochlorite dosing system for UV feed, including dosing pump and tubing
- Static mixer downstream of sodium hypochlorite injection point on RO permeate line
- CIP tank w/ heater
- CIP pump
- CIP cartridge filter
- Instrumentation, valves and piping as detailed in H2O Innovation P&IDs. Equipment, valve and instrument lists as described in the appendices, plus adders listed in scope of supply. Note that instrumentation analyzer panels are not included, but instrumentation outputs are shown on the HMI screens.
- Control panel with PLC and HMI
- All equipment assembled as a complete system and mounted onto an epoxy coated carbon steel frame
- On-site service (commissioning and start-up):
    - Membrane element installation assistance and supervision
    - System installation inspection and verification
    - 12 hours on-site operator training (8 hours maintenance, 4 hours operation)
    - Four (4) days for functional testing
    - One (1) day process operational support
- Service visits:
    - One (1) day site visit during one year warranty period
    - One (1) day site visit six (6) months after final acceptance
    - One (1) day service and performance review visit twelve (12) months after final acceptance
    - Two (2) day training six (6) months after performance test
- General items:
    - One (1) year standard warranty (see Terms & Conditions)
    - Educational cut-away of pressure vessel and RO membrane element, with end caps, brine seals and adaptors
    - Submittals:
        - Process & Instrumentation Diagrams
        - General Arrangement Drawings
        - Equipment List & Cut Sheets
        - Instrument List & Cut Sheets
        - Valve List & Cut Sheets
        - O&M Manual

SECTION 6 – REMOTE ACCESS AND DATA LOGGING OPTIONS

Hardware to facilitate remote access capability and data logging can be included at an extra charge. Intelogx, previously called SPMC, includes an Advantech industrial PC for logging the data, Fortigate firewall, Sierra wireless cellular modem and antennae, as well as a Factory TalkView SE runtime license.

H_2O Innovation can provide technical services for setting up remote access at a project site location on top of equipment costs (provided upon request) as follows:

- Sites using a wireless connection: Technical services by H2O Innovation would be provided at a lump sum cost of $500 (USD) per project site.
- Sites using a customer's hardwired connection: Technical services by H2O Innovation would be charged at an hourly rate of $100 (USD), plus any expenses charged at cost plus 15%. IT services are charged at an hourly rate for this scenario as we cannot estimate the complexities of navigating through private firewall systems and IT security protocols at existing water treatment plants.

Above quoted rates are exclusive of taxes.

Please note that all cost associated with internet service providers at site and/or third party data service coverage plans including any installation fees and service provider equipment rentals is the responsibility of others.

Data logging for purposes of monitoring pilot performance would be provided by means of data files that are compiled and saved to the pilot's Advantech PC. Data files would be extracted by the customer/consultant by remotely connecting to the pilot and selecting the appropriate files. Data file extraction would be required at least every 30 days. Data would be logged by CSV data files and would include such raw values as feed and production flow, backpulse flow, feed and filtrate pressures, feed and filtrate turbidities, feed temperature, as well as MIT data (start pressure, end pressure, pressure decay rate).

SECTION 7 – COMMERCIAL OFFER

7.1 PRICING

Item	Pricing (USD)
UF- RO Pilot units per proposal scope described herein	**$411,850**
Adder #1: Additional items to comply with RO P&IDs provided on 8/28/18 • 1st stage feed isolation ball valve (2", SS316) • 1st stage feed bypass ball valve (2", SS316) • 2nd stage feed isolation ball valve (2", SS316) • 1st stage permeate PSH (1", PVC Sch80) • 1st stage permeate PRV (1", PVC Sch80) • 1st stage permeate positioning actuator on FCV-41076 • Combined permeate PRV (1-1/2", PVC Sch80) • Combined permeate PSH (1-1/2", PVC Sch80) • 1st stage permeate magnetic flow meter (1", PVC Sch80) • 2nd stage permeate magnetic flow meter (1/2", PVC Sch80) • 3rd stage permeate magnetic flow meter (1/2", PVC Sch80) • CIP supply ball valve (2", SS316) • CIP fill ball valve (1-1/2", PVC Sch80) • 3rd stage concentrate control valve actuator • Additional piping, labor and engineering to incorporate above items • Includes deducts for removal of paddlewheel flow meters and any valves replaced by items listed above	**$17,425.00**
Adder #2: Sodium hypochlorite simplex dosing skid for UV feed and associated static mixer requested on 9/6/18	**$9,763.00**
Adder #3: TOC Analyzer for RO feed and permeate requested on 9/12/18 Sievers M5310C online TOC analyzer dual stream*	**$35,900.00**
Adder #4: Conductivity analyzers for permeate on each RO stage requested on 9/12/18 Three (3) total for 1st, 2nd and 3rd stage permeate	**$4,350.00**

Adder #5: Ammonia Analyzer- UF Filtrate requested on 9/14/18 Endress + Hauser Ammonium Analyzer CAS40D and Liquiline CM442 transmitter*	**$12,260.00**
Adder #6: Total Chlorine Analyzer- UF Filtrate upstream of UF Filtrate Tank Endress + Hauser CCS120-AS0 and CCM223 transmitter	**$2,850.00**
Adder #7: ORP- UF Filtrate Endress + Hauser CPF82 sensor and CPM223 transmitter	**$1,830.00**
Adder #8: Free Chlorine Analyzer- UF Filtrate/RO Feed downstream of UF Filtrate Tank Endress + Hauser CCS140-A and CCM223 transmitter	**$2,335.00**
Adder #9: UV AOP Analyzer Panel- UV AOP Feed/Effluent UVT analyzer/transmitter (Sensorex UVT-LED-SW)*, pH analyzer/transmitter, free chlorine analyzer/transmitter, total chlorine analyzer/transmitter tied into RO skid PLC/HMI.	**$43,907.00**

*Make/model can be finalized during detailed engineering phase should other options be preferred.

NOTES:

(1) Pricing is exclusive of taxes.
(2) UF modules have been excluded from price.
(3) Shipping FCA job site.

Adder #9 not inlcuded in purchase

7.2 PAYMENT TERMS

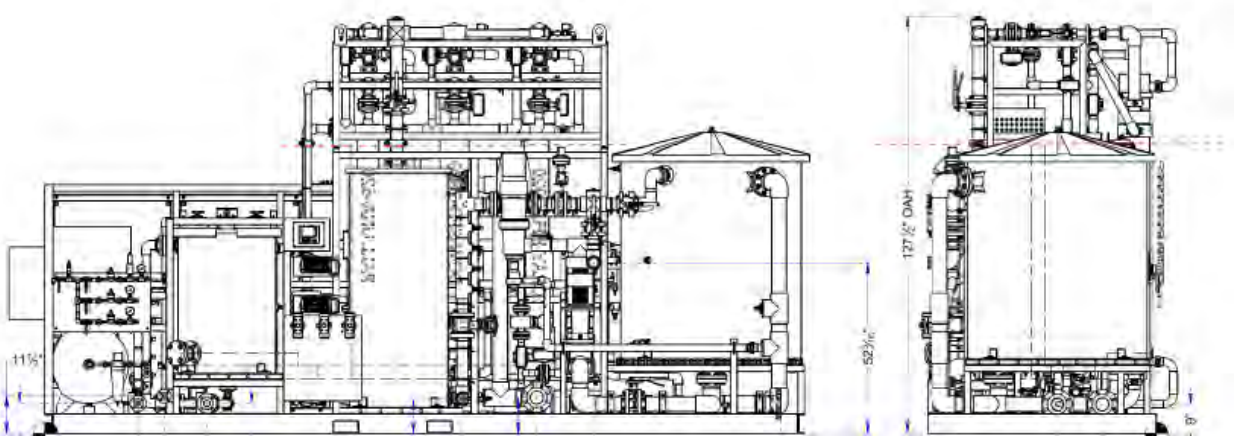
Our commercial offer is based on the following payment terms, which are negotiable:

- 10% upon execution of Purchase Order
- 30% upon approval of drawings and submittals
- 50% upon receipt of major equipment at H_2O Innovation manufacturing facility
- 10% upon delivery of pilot equipment to the customer's site

To: Dan Hugaboom, Carollo Engineers, Inc.
Re: Las Virgenes Demonstration Project- UF System Height

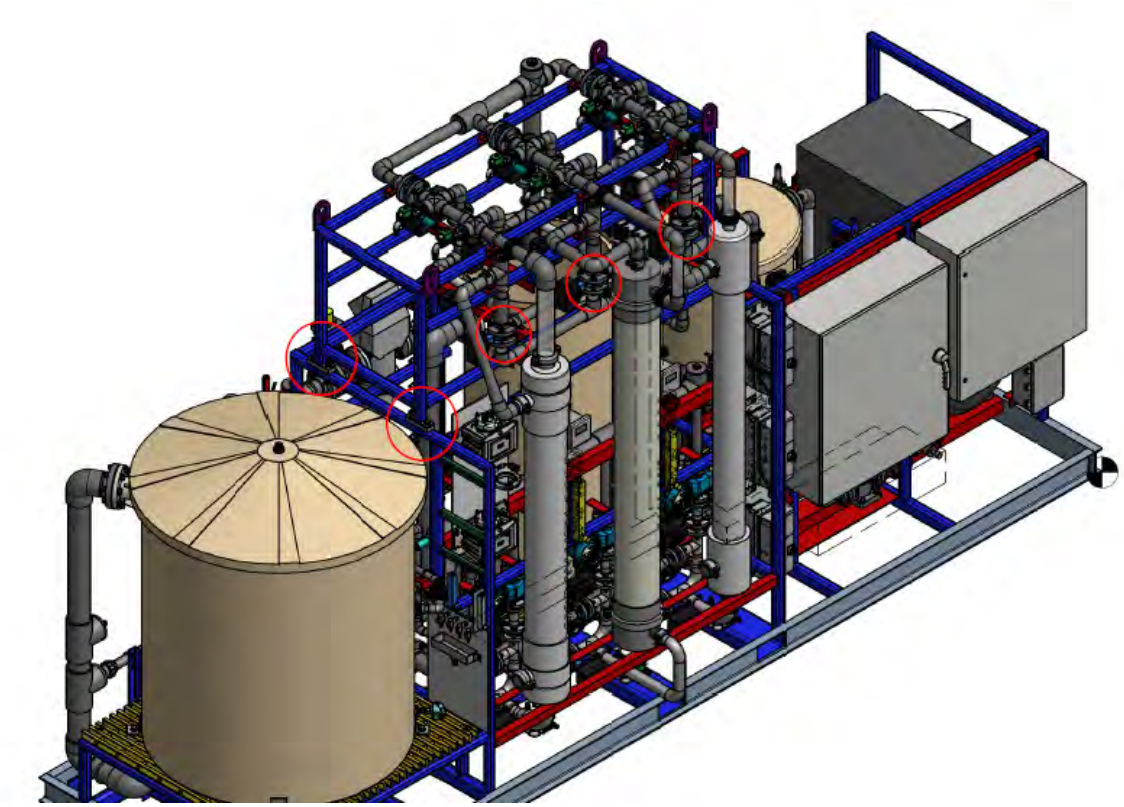
August 31, 2018

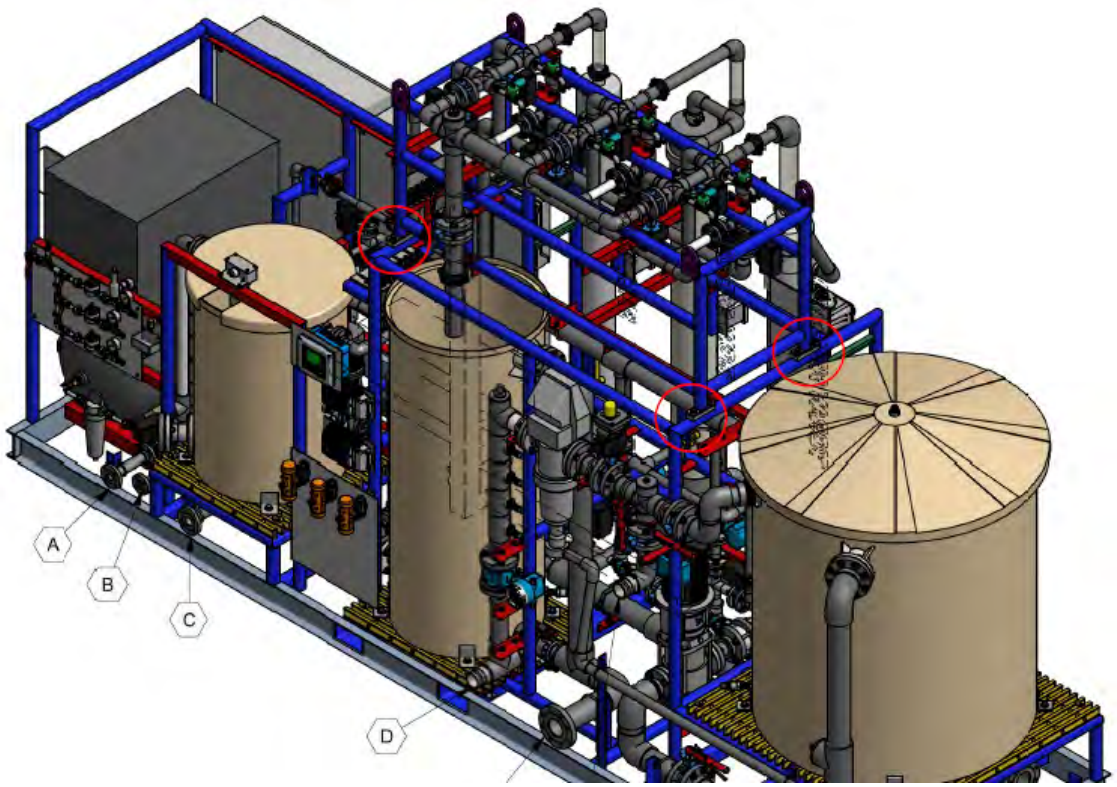
Dear Mr. Hugaboom,
This letter is to confirm that the height of the UF system proposed in H2O Innovation's bid dated August 24, 2018 will fit through the eight-foot high doors at the client's site. The top section of the frame can be unbolted and piping can be disconnected at flexible couplings or flanges to reduce the overall height of the system during installation of the equipment. The top portion of the frame, modules, piping, valve racks and backwash tank lid above the red line shown in the drawings below will need to be removed and re-assembled once the unit is inside the building.



H2O Innovation
1048 La Mirada Court, Vista, CA 92801, United States
Tel: 760.598.2206 Fax: 760.598.2208
www.h2oinnovation.com info@h2oinnovation.com

The frame will be bolted on at the connections depicted in the 3-D renderings below. Full assembly details can be provided during submittals.





In addition, system shipping weight is listed as 9,193 lbs.

Should you have any further questions or requirements, please do not hesitate to contact us.

Best Regards,

Naomi Jones, Sales Engineer
H2O Innovation, Inc.
(760) 519-7701
Naomi.jones@h2oinnovation.com

WEDECO
a xylem brand

Bid Proposal

Las Virgenes MWD-Triunfo Pure Water UV AOP Demo Project

Prepared for:
Carollo Engineers
Lauren R. Bray

September 20, 2018

Xylem Water Solutions USA, Inc.
14125 South Bridge Circle
Charlotte, NC 28273

September 20, 2018

Carollo Engineers
Lauren R. Bray
5355 Mira Sorrento Place, Suite 270
San Diego, CA 92121

Project Name: Las Virgenes MWD-Triunfo Pure Water UV AOP Demo Project
Project Number: J16100198844
Revision Number: 2

Dear Lauren R. Bray,

We are pleased to submit the following proposal for the Las Virgenes, CA UV AOP Demo UV AOP opportunity based on the information provided within your inquiry.

The Spektron series is a closed vessel system specifically designed for high UVT applications. We have highlighted below the major benefits of the WEDECO UV AOP & Spektron system:

- Our system includes our latest low-pressure, high-intensity Ecoray lamps which have a guaranteed life of 14,000 hours and are a more efficient lamp with a lower power consumption requirement. In addition, from a maintenance standpoint, the Ecoray lamps are more robust and easy to remove and replace.
- Latest sensor technology – germicidal UV sensor of reference sensor quality (ÖNORM approved) providing the highest accuracy in UV system monitoring and control providing true-intensity based control which optimizes power consumption with lamp turndown.
- The WEDECO Spektron Series reactor utilizes the OptiCone technology which mixes the influent water to provide superior dose distribution throughout the entire reactor. Eliminating the concern of short-circuiting also with very low head loss.
- WEDECO's established and proven TotalCare Program provides our customers with proactive services all designed to minimize the cost of ownership to operate and maintain a UV system. TotalCare services can provide our customers with system health checks, efficiency audits, training and preventative maintenance contracts.

Please refer to our local representative Roger Antonie of Misco, 949-458-5555 or us if you have any questions. We look forward to working with you on this exciting project.

Sincerely,

Pedro Gochicoa
Senior Sales Engineer
(980) 312-1365

Josiah Wallace
Sales Engineer

Table of Contents

1 Xylem Overview

Xylem is a leading global water technology provider, enabling customers to transport, treat, test and efficiently use water in public utility, residential and commercial building services, industrial and agricultural settings. The company does business in more than 150 countries through a number of market-leading product brands, and its people bring broad applications expertise with a strong focus on finding local solutions to the world's most challenging water and wastewater problems.

Xylem's treatment business offers a portfolio of products and systems designed to effectively meet the demands and challenges of treating water and wastewater. From smarter aeration to advanced filtration to chemical-free disinfection, Xylem leverages its well-known Treatment brands, Flygt, Leopold, Sanitaire, and Wedeco, to offer hundreds of solutions backed by a comprehensive, integrated portfolio of services designed to ensure we can meet our customers' needs in a number of different industries including municipal water and wastewater, aquaculture, biogas and agriculture, food and beverages, pharmaceuticals, and mining.

Our scientists and engineers utilize their deep applications expertise and continually listen and learn from our customers' situations to create solutions that not only use less energy and reduce life-cycle costs, but also promote the smarter use of water.

WEDECO
a xylem brand

Wedeco has accepted the challenge of the 21st century. With the Wedeco brand for UV Disinfection, ozone oxidation & AOP solutions, we own the advanced technologies for chemical-free and environmentally friendly treatment of drinking water, wastewater and process water as well as further industrial treatment processes. We constantly invest a large portion of our energy in the development of high-tech components, systems and equipment, as well as in the study of new areas of application for UV, ozone & AOP. In doing so, we have always given special attention to the increase in energy efficiency of our Products equipped with our unique UV lamps and ozone electrodes.

The special characteristics of the Wedeco Ecoray UV lamp are its special doping and the unique long-life coating. Because of these features, a constantly high UV light yield is achieved with a substantially extended lamp service life at the same time. In addition, by using this technology it is not necessary to apply liquid mercury inside the lamp. Wedeco UV lamps cannot be surpassed in economic efficiency.

In relation to expenditure of energy, the High-Intensity/Low-Pressure Technology provides a light yield three times higher than comparable UV lamps of widely used Medium Pressure Technology. A higher light yield also means a lower heat generation at the same time.

Thanks to this, Wedeco UV lamps become less susceptible to varying water temperatures. Even the formation of deposits on the quartz sleeves as well as lamp aging is considerably lower than with alternative UV lamp technologies in Herford and Essen.

WEDECO Ecoray UV lamp

Xylem's Wedeco ozone systems combine maximum flexibility and reliable operating characteristics for small to large ozone capacities. The ozone generator system and control unit can be combined and supplemented with option sets that allow for various application requirements.

Effizon evo 2G ozone electrodes are the core of our technology and achieve an unmatched level of reliability and energy efficiency. The electrodes are manufactured completely from inert materials, without the need for fuses or coatings, making them highly resistant to corrosion. This means that the Wedeco ozone generators are practically maintenance free with no need for regular cleaning or replacement of the electrodes.

We rely on consistently high-quality standards in all divisions of the company. Moreover, product quality and manufacturing operations are constantly monitored and optimized in continuous improvement processes. Established quality controls give Xylem and you the security of knowing that Wedeco UV, Ozone & AOP systems will always operate reliably.

WEDECO Effizon® evo 2G Ozone electrode

For more information please visit us at
http://www.xylem.com/treatment/

2 General Process Description

2.1 DESIGN

- Design Flow Rates
  - Peak Design Flow — 24 gpm
  - Average Design Flow — 12 gpm
- TOC — <0.5 mg/l
- pH — 5.0 to 6.0
- Allowable Effluent Temperature Range — 41-86°F
- UV Transmittance at 253.7 nm — 98%, minimum
- Effluent Disinfection Standard
  - 1 Log Reduction NDMA
  - 0.5 Log Reduction 1,4 Dioxane
  - 6 Lod Reduction Adenovirus
- NaOCl Max Chemical Dose — 10 mg/L
- UV Dose
  - 6 Log Reduction Adenovirus based on calculated PSS dose) — 272 mJ/cm²
  - 1 Log Reduction NDMA (based on calculated PSS dose) — 900 mJ/cm²
  - 0.5 Log Reduction 1,4 Dioxane (based on calculated PSS dose) — 600 mJ/cm²

2.2 PROCESS DESCRIPTION

The UV AOP system will be a pre-assembled skid mounted system that will contain either one Spektron 30e reactor to treat the full flow or two Spektron 30e reactors which will split the peak flow. The reactor(s) have been sized to deliver the required dose to achieve 0.5 Log reduction of 1,4 dioxane. The chemical dosing will be provided from an outside source. As an optional upgrade, the system will monitor pH, free chlorine, total chlorine, UVT, UV intensity & flow into each eactor in order to provide the most effficient UV and sodium hypochlorite dose. As an alternate the pH, free chlorine, total chlorine, UVT and flow will not be monitored with online instrumentation.

3 Technical Description

Reactor Configuration 1 Duty

CONFIGURATION:	Spektron 30e	
DESCRIPTION	**UNITS**	**VALUE**
Number of 316L SS vessels Number of lamps per vessel Number of intensity sensors per vessel Total number of lamps		1 1 1 1
REACTOR DIMENSIONS:	Inches	See attached drawing
HEADLOSS PER VESSEL @ 24 GPM:	Inches	0.20
POWER CONSUMPTION: Reactor Only Reactor @ 100% Power	kW	 0.65

Reactor Configuration 2 Duty

CONFIGURATION:	Spektron 30e	
DESCRIPTION	**UNITS**	**VALUE**
Number of 316L SS vessels Number of lamps per vessel Number of intensity sensors per vessel Total number of lamps		2 1 1 2
REACTOR DIMENSIONS:	Inches	See attached drawing
HEADLOSS PER VESSEL @ 12 GPM:	Inches	0.1
POWER CONSUMPTION: Both Reactors @ 100%	kW	 1.3

4 Technical Clarification & Deviations

Item	Clause	Comment
Section 46 66 16		
1	1.04.D.1 & 2.03.E	Please confirm if an automatic cleaning is required. Conflicting information. Also confirm if the offline chemical cleaning system is required as well.
2	2.06.A.2	Xylem will require a 480V/3Ph 4wire + GND service to the Control Enclosure.

5 Price & Scope of Supply

5.1 OPTION 1 : SPEKTRON 30e BASE OPTION (ONE DUTY REACOR)

One (1) fully assembled, skid mounted WEDECO MiPro UV AOP system utilizing the Spektron 30e-Series™ ultraviolet disinfection reactor, including the following major equipment:

One (1) 316L stainless steel Spektron 30e reactor will be supplied completely assembled with UV lamps, quartz sleeves, ANSI flange connections and lamp connector with O-ring seals.

- One (1) reactor mounted calibrated UV intensity sensor per reactor
- One (1) reactor mounted temperature switch per reactor
- Two (2) stainless steel manual cleaning port isolation valves per reactor

5.1.1 **Control 12 Enclosure**: The system control enclosure will be supplied to control the reactor only. It shall contain the EcoTouch controller. SCADA communication module to be provided.

Model & Make:	WEDECO EcoTouch
Quantity:	One (1)
Rating, Cooling & Material:	Type 12, Fan-cooled, Painted Steel
Dimensions:	23.62" W x 15.75"D x 23.62" H

5.2.1 One (1) in-line electromagnetic flowmeter shall be provided for continuous measurement of the flow rate influent to the UV reactor.

- Make: Endress & Hauser Model: Promag P 300

5.1.2 Three (3) manual butterfly valves shall be provided. Two will service as inlet and outlet isolation of the UV reactor. One actuator will be located on the bypass line that will serve as the flow control valve.

- Make: Keystone Model: TBD

5.1.3 Spare Parts. The following spare parts will be supplied:

- VLR 30 UV Lamps: Qty. 2
- TDS30 Ballast: Qty. 1
- Quartz Sleeve: Qty. 2
- Lamp Flange O-Ring Seal: Qty. 2
- Lamp Connector: Qty. 1
- UV Sensor: Qty.1
- Eco Touch Controller: Qty 1
- LMS Ballast Flex Board 1
- Axial Ballast Rack Fan: Qty. 1

5.1.4 Field Services: WEDECO will provide the services of a qualified technician for the following:

- Three (3) days, One (1) trip(s) for start-up, & commissioning
- Three (3) days, One (1) trip(s) for performance testing.
- One (1) days, One (1) trip(s) for operator training.
- Additional days as required will be made available on a per diem rate plus travel.

5.2 OPTION 2: SPEKTRON 30e OPTIONAL DESIGN (ONE DUTY)

- **INCLUDING BASE OPTIONS**

5.2.2 Two (2) on-line transmittance monitors shall be provided for continuous measurement of UV transmittance. The UVT monitor will be located prior to the UV reactor and after the UV reactor.

- Make: RealTech
- Model: Real UV254 M3000 with Real Clean System 1

5.2.3 One (1) pH monitor (probe & transmitter) shall be provided for continuous measurement of the pH level prior to the UV reactor after NaOCl injection.

- Make: Endess & Hauser
- Probe Model: Orbipac CPF81D
- Transmitter Model: Liquiline CM442

5.2.4 Two (2) on-line free chlorine analyzers shall be provided for continuous measurement of free chlorine after NaOCl injection prior to the UV reactor and after.

- Make: HACH Model: CLF10sc

5.2.5 Two (2) on-line total chlorine analyzers shall be provided for continuous measurement of total chlorine after NaOCl injection prior to the UV reactor as well as after.

- Make: HACH Model: CLT10sc

5.2.6 Three (3) actuated butterfly valves shall be provided. Two will service as inlet and outlet isolation of the UV reactor with open/close service. One valve/actuator will be located on the bypass line that will serve as the flow control valve with modulating service.

- Make: Keystone/Kinetrol Model: TBD

5.3 OPTION 3: SPEKTRON 30e BASE OPTION (TWO DUTY)

One (1) fully assembled, skid mounted WEDECO MiPro UV AOP system utilizing the Spektron 30e-Series™ ultraviolet disinfection reactor, including the following major equipment:

Two (2) 316L stainless steel Spektron 30e reactors will be supplied completely assembled with all required UV lamps, quartz sleeves, lamp end/reactor mating flange assemblies and lamp connector with O-ring seals.

- One (1) reactor mounted calibrated UV intensity sensor per reactor
- One (1) reactor mounted temperature switch per reactor
- Two (2) stainless steel manual cleaning port isolation valves per reactor

5.3.1 **Control 12 Enclosure**: The system control enclosure will be supplied to control the reactor only. It shall contain the EcoTouch controller. The EcoTouch will include a communication module to import and export all UV system data from/to the SCADA system.

Model & Make:	WEDECO EcoTouch
Quantity:	Two (2)
Rating, Cooling & Material:	Type 12, Fan-cooled, Painted Steel
Dimensions:	23.62" W x 15.75"D x 23.62" H

5.4.1 Two (2) in-line electromagnetic flowmeter shall be provided for continuous measurement of the flow rate influent to each UV reactor.

- Make: Endress & Hauser Model: Promag P 300

5.3.2 Five (5) manual butterfly valves shall be provided. Four will service as inlet and outlet isolation of the UV reactor. One valve will be located on the bypass line that will serve as the flow control valve.

- Make: Keystone Model: TBD

5.3.3 Spare Parts: The following spare parts will be supplied :

- VLR 30 UV Lamps: Qty. 2
- TDS30 Ballast: Qty. 1
- Quartz Sleeve: Qty. 2
- Lamp Flange O-Ring Seal: Qty. 2
- Lamp Connector: Qty. 1
- UV Sensor: Qty.1
- Eco Touch Controller: Qty 1
- LMS Ballast Flex Board 1
- Axial Ballast Rack Fan: Qty. 1

5.3.4 Field Services: WEDECO will provide the services of a qualified technician for the following:

- Three (3) days, One (1) trip(s) for start-up, & commissioning
- Three (3) days, One (1) trip(s) for performance testing.
- One (1) days, One (1) trip(s) for operator training.
- Additional days as required will be made available on a per diem rate plus travel.

5.4 OPTION 4: SPEKTRON 30e OPTIONAL DESIGN (TWO DUTY)

- **INCLUDING BASE OPTIONS**

5.4.2 Two (2) on-line transmittance monitors shall be provided for continuous measurement of UV transmittance. The UVT monitor will be located prior to the UV reactors and after the UV reactors.

- Make: RealTech
- Model: Real UV254 M3000 with Real Clean System 1

5.4.3 One (1) pH monitor (probe & transmitter) shall be provided for continuous measurement of the pH level prior to the UV reactors after NaOCl injection.

- Make: Endess & Hauser
- Probe Model: Orbipac CPF81D
- Transmitter Model: Liquiline CM442

5.4.4 Two (2) on-line free chlorine analyzers shall be provided for continuous measurement of free chlorine after NaOCl injection prior to the UV reactors and after.

- Make: HACH Model: CLF10sc

5.4.5 Two (2) on-line total chlorine analyzers shall be provided for continuous measurement of total chlorine after NaOCl injection prior to the UV reactors as well as after.

- Make: HACH Model: CLT10sc

5.4.6 Five (5) actuated butterfly valves shall be provided. Two will service as inlet and outlet isolation of each UV reactor with open/close service. One valve/actuator will be located on the bypass line that will serve as the flow control valve with modulating service.

- Make: Keystone/Kinetrol Model: TBD

5.5 CONTRACTOR SCOPE OF SUPPLY

The customer will be responsible for providing all items that are necessary for the completion of the treatment process as described in the tender document, including the following items related to the equipment described in this proposal:

5.2.1 The CONTRACTOR is responsible for all field terminations and electrical conduits. The field terminations include the chemical feed system control wiring to the UV AOP control enclosure, main power feeds to the control enclosure and chemical feed system.

5.2.2 The CONTRACTOR is responsible for ballast card installation; there is a total of one (1) ballast (estimated 1-2 minutes per ballast card).

4.2.1 The CONTRACTOR is responsible for setting in place and anchoring the pre-mounted UV AOP skid and chemical feed skid. The CONTRACTOR shall also be responsible for the power feed(s) to the UV AOP control enclosure:

- 480 V, 3-phase, 4 wire plus ground (wye), 60 Hz

All conduits and conductors are the responsibility of the CONTRACTOR.

5.2.3 Air supply to the pneumatic vane actuators for the isolation and flow control valves located on the UV AOP skid.

5.2.4 Service water supply: sufficient quantity of clean service water for the cleaning system to fill and rinse the reactors during cleaning

5.2.5 Process piping and connections: all process piping, valves, connections, from the RO system to the UV AOP skid boundary and from the bypass on the UV AOP skid.

5.2.6 Lightning protection and electrical ground connection.

5.2.7 Labor for unloading, installing and commissioning acc. to O&M manuals

5.2.8 Sufficient climate-controlled building (maximum ambient air temperature = 104°F) for all electrical enclosures and ancillary equipment.

5.2.9 Video taping of training if required.

In addition, materials of construction should be capable of withstanding periodic exposure to cleaning solution.

5.6 PRICE SUMMARY

DESCRIPTION	PRICE
Option #1 One Spektron 30e Eco Touch, as stated in Scope	**$ 91,000**
Option #2 One Spektron 30e Eco Touch, as stated in Scope	**$ 136,000**
Option #3 Two Spektron 30e EcoTouch, as stated in Scope	**$ 102,000**
Option #4 Two Spektron 30e Eco Touch, as stated in Scope	**$ 153,000**

NOTES:

1. All prices are FCA factory with full freight allowed to the job site. Offloading and arrangement of the equipment is not included.
2. Price quoted is firm and valid for 90 days. WEDECO reserves the right to adjust price after 90 days.
3. Price is based upon the following payment terms (net 30 days):
    a. 10% net 30 days upon initial submittal of mechanical/electrical drawings for approval
    b. 80% net 30 days from the date of the respective shipments of the product
    c. 5% installation of the Xylem equipment, NTE 150 days after shipment (whichever comes first)
    d. 5% start-up / training on the Xylem equipment, NTE 180 days after shipment (whichever comes first)
4. Please make purchase orders out to:
    Xylem Water Solutions USA, Inc.
    14125 South Bridge Circle
    Charlotte NC 28273
    704-409-9700
    Fax 704-409-9839
5. WEDECO does not provide for any process utility requirements including electrical power.
6. If not specifically requested, typical commissioning and training services have been included in firm proposal.
7. This firm proposal is based upon WEDECO's General Terms of Business.
8. No taxes of any kind have been included in this firm proposal.

6 Commercial Terms & Conditions

6.1 DELIVERY SCHEDULE

6.1.1 Delivery Time

- Submittals are available within 8 weeks after acceptance of purchase order.
- Equipment delivery is within 18 weeks after approved submittals.
- Delivery times are based upon an approval period of four (4) weeks, which approval shall not be unreasonably withheld.

7 Attachments

7.1 BROCHURE

Spektron UV Series

SHINING NEW LIGHT ON DRINKING WATER DISINFECTION

WEDECO

a xylem brand

Let’s disinfect drinking water, no matter what.

Featuring highly efficient UV lamps and advanced flow distribution technology, the Spektron series is a cost effective, reliable solution for drinking water plants.

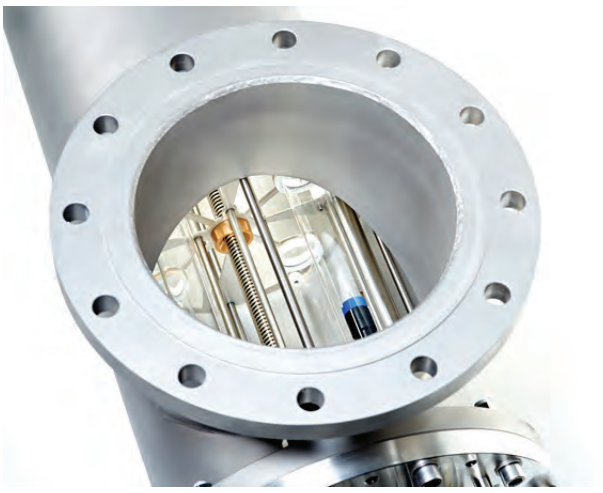
» **Wide array of applications** from domestic water supply and industrial uses to large municipal water plants with a capacity of more than 4,000 m^3/h (25 MGD) per unit

» **Certified and validated disinfection performance** according to Austrian ÖNORM, German DVGW directives, and US EPA´s UV Disinfection Guidance Manual (UVDGM)

» **Low energy consumption** with low-pressure high-output amalgam lamps (Spectrotherm) and optimized hydraulic conditions. Additional 20% energy savings are possible with the latest Ecoray® UV lamps and ballasts and OptiDose UV dose pacing for Spektron ‘e’ units.

» **Excellent performance monitoring** by latest sensor technology and sophisticated control system

» **Easy installation** with multiple flange and mounting options regardless of inlet piping conditions

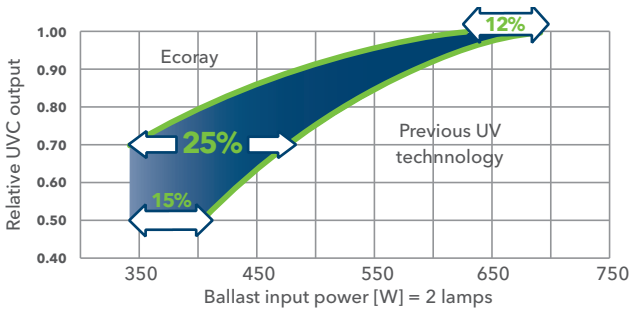


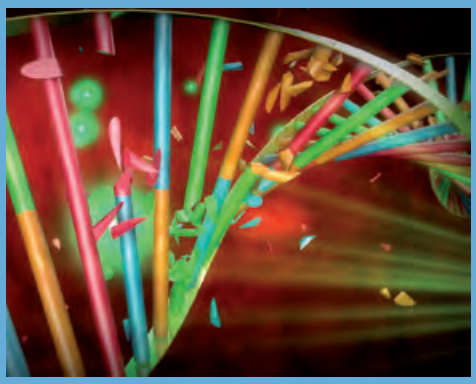
The optional chemical-free wiping system of most (2e 5e and 10e are unwiped only) Spektron ‘e’ units maximizes efficiency and reduces manual cleaning needs with poor drinking water qualities as low as 70% UV transmittance (UVT)

Wedeco Ecoray technology
Wedeco Ecoray technology perfectly matches UV lamps and ballast to deliver the highest efficiency, longer lamp life, shorter warm-up time and excellent dimming mode properties to the job.

Ecoray lamp and ballast technology gives higher relative UVC output than conventional low-pressure, amalgam UV lamps when operated in dimmed mode. By automatically dimming the lamps to match the dosage you need, you save energy from improved efficiency during the majority of operating conditions.

The Ecoray 600 watt (W) lamps offer the additional benefit of reduced lamp count by up to 60 percent, resulting in low life cycle costs and easy maintenance. Thanks to reduced mercury content, Ecoray lamps are also more stable and sustainable – an environmentally friendly feature of Spektron 'e' units that can help reduce your carbon footprint.





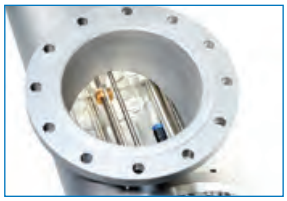
Water disinfection by means of UV technology is the process of inactivating microorganisms due to partial photo oxidation of the organism's DNA.
UV radiation alters the DNA in the cells and stops their ability to reproduce. More than 99.99 % of all pathogens can be rendered harmless in a fraction of a second.

UV disinfection has been proven effective against all pathogens, including parasites (e.g. *Cryptosporidium* and *Giardia*), bacteria (e.g. *E. coli, Salmonella Typhi*, *Vibrio cholerae*, *Pseudomonas aeruginosa*) and viruses (e.g. *Poliovirus, Norovirus* and *Rotavirus*) without affecting the taste or odor of the water.

UV technology is safer for your employees, your community, and the environment. UV disinfection eliminates the risks associated with on-site storing and handling of hazardous chemicals, keeping your treatment plant and the surrounding community protected from accidental leaks.

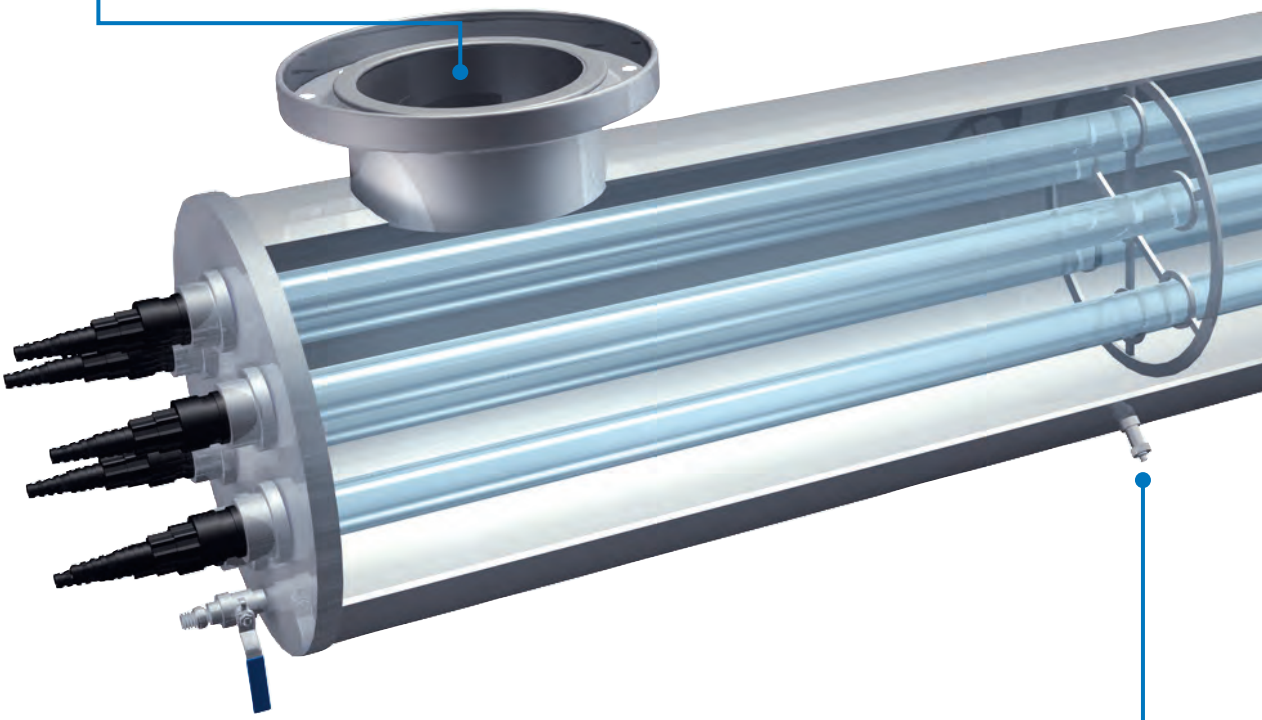
UV inactivates up to 4-log of pathogens without adding harmful chemicals to the water and prevents by-product formation such as Trihalomethanes (THMs) or Haloacetic acids (HAAs) formed by chlorination.

More features.
Less compromises.



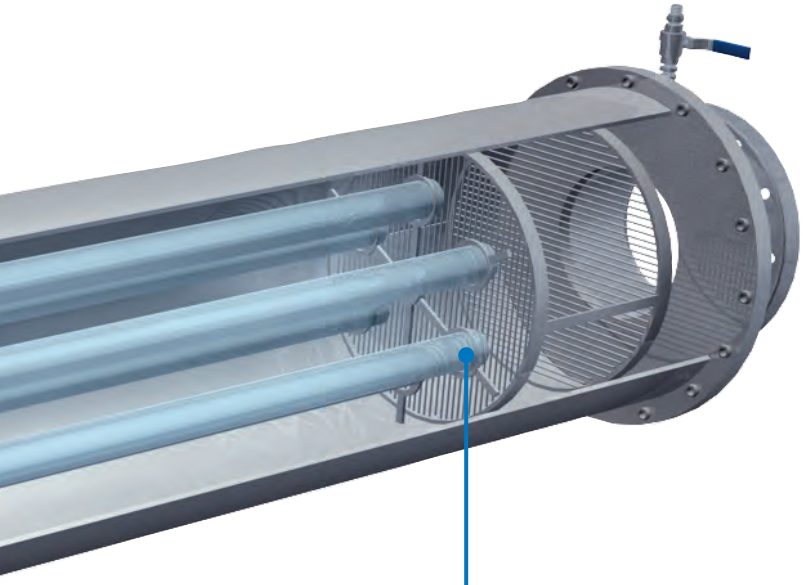
Irradiation chamber
The UV lamps are installed parallel to the flow in quartz glass tubes. The water runs past the quartz tubing and is irradiated by the UV light.

Multiple flange options make the systems a good fit for a wide range of flow rates and installation requirements.

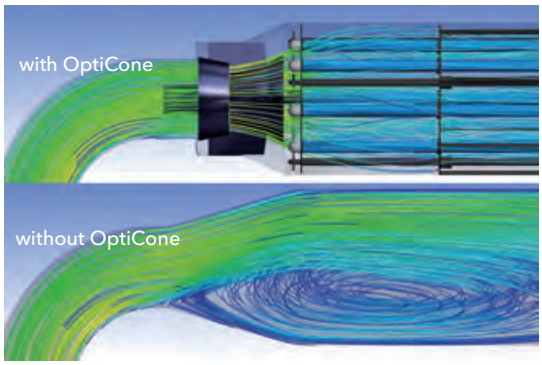


Leading sensor technology
The UV performance is continuously monitored by an ÖNORM compliant UV sensor that fulfils reference sensor requirements.
The sensor also contributes to the OptiDose UV dose pacing which modulates UV lamp output to the actual level needed to meet the UV dose required (option for Spektron 'e' units). This avoids over dosage and reduces overall operating cost without compromising disinfection performance.

Ballast and control cabinet
The control cabinet houses the ballast cards and monitoring and control features. Customer interface signals allow for remote diagnostics and control. Spektron units are equipped with the unique EcoTouch controller featuring an easy-to-use operator touch panel that unifies all sensor signals, SCADA connectivity, and OptiDose closed loop control to maximize operator usability.



Optimized hydraulics for every installation
Optimal disinfection results require uniform velocities throughout the reactor chamber. The Wedeco flow distribution concept is the result of intensive development work using complex Computational Fluid Dynamics (CFD) simulations. The OptiCone flow diverter ensures optimal disinfection performance independent of the inlet situation, while also maintaining low water head loss.



Technical Data.

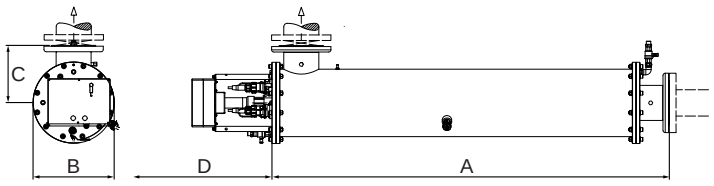
Model #	2e	5e	10e	15	25	30e	50e	75e	90e	180e	250e	350e	650e	900e	2000e	4000e
UV transmittance range in % (1cm)	70-98							60-98	70-98							
Maximum flow rate (m^3/h / MGD) *	6.6/ 0.04	10/ 0.07	18/ 0.12	20/ 0.13	42/ 0.23	49/ 0.31	101/ 0.64	130/ 0.84	152/ 0.96	223/ 1.41	390/ 2.47	670/ 4.25	1,247/ 7.9	1,795/ 11.38	3,020/ 13.3	6,032/ 29
DVGW certification	Yes					No	Yes									
ÖNORM certified & validated	Yes													No		
UVDGM validated	No										Yes					

UV Lamps and Monitoring System																
Lamp technology	Ecoray low-pressure high-output			Spektrotherm		Ecoray low-pressure high-output										
Power per lamp (W)	50	70	120	210	300	290			230	290					600	
Number of lamps	1					1	3	4	3		4	6	8	12		24
UV intensity monitoring	Germicidal, ÖNORM compliant															
Individual lamp monitoring	Yes															

UV Reactor																
Protection class	IP 65					IP 65 / NEMA 4X		IP 54	IP 65 / NEMA 4X							
Flow diverter	Integrated							No	OptiCone							
Cleaning system	Manual					Automatic, mechanical (optional)										
Reactor material	Stainless steel 1.4404 / 1.4435 (ASTM 316L)															
Flange sizes (DN / ANSI)	40	50	65	65	80	80/3"	100/4"	150/ na	125/5"	150/6"	200/8" 300/12"	250/10" 350/14"	300/12" 450/18"	350/14" 500/20"	500/20"	700/28"
Dimensions (A) (mm / Inch) **	430/ 16.9	520/ 20.5	770/ 30.3	1340/ 52.8	1660/ 63.4	1660/ 65.4	1665/ 65.6	1530/ 60.3	1607/ 63.3	2010/ 79.1	2061/ 81.1	2283/ 89.9	2501/ 98.5	2389/ 94.1	2711/ 106.7	2732/ 107.6
Dimensions (B) (mm / Inch) **	170/ 6.7	170/ 6.7	170/ 6.7	168/ 6.6	168 / 6.6	210/ 8.3	278/ 10.9	215/ 8.5	390/ 15.4	390/ 15.4	470/ 18.5	525/ 20.7	725/ 28.5	725/ 28.5	883/ 34.8	1093/ 43.0
Dimensions (C) (mm / Inch) **	115/ 4.5	125/ 4.9	130/ 5.1	170/ 6.7	175/ 6.9	175/ 6.9	227/ 8.9	250/ 9.8	275/ 10.8	275/ 10.8	340/ 13.4	353/ 13.9	450/ 17.7	470/ 18.5	580/ 22.8	777/ 30.6
Dimensions (D) (mm / Inch) **	450/ 19.7	550/ 19.7	750/ 29.5	1380/ 54.3	1640/ 64.6	1800/ 70.9	1800/ 70.9	1700/ 67.0	1500/ 59.1	1800/ 70.9	2100/ 82.7	2300/ 90.6	2300/ 90.6	2300/ 90.6	2300/ 90.6	2300/ 90.6
Maximum operating pressure (bar/PSI) ***	16/232			10/145												

UV System Control Cabinet																
Ballast type	Electronic, constant output (100% power)					Electronic, high-efficiency, variable output (50 to 100% power)										
Controller	EcoTouch					EcoTouch or PLC		EcoTouch or PLC								
Materials of construction	Painted sheet steel or stainless steel															
Electrical standards	CE					CE, UL, cUL										
Common outputs	System status, Lamp status, Alarm messages, Process values															
Scada communication	EcoTouch or PLC															
Protection class	IP 65			IP 54		IP 54 / cUL Type 12 (Type 4X optional)										
Supply voltage	CE: 1 L/N/PE, 230V +/-10%, 50-60Hz(TNS net, TN-C net)					CE: 1 L/N/PE (GND), 230V +/-10%, 50-60Hz cUL: 1 L/N/PE (GND), 120V/240V +/-10%, 60Hz						CE: 400/230 +/- 10%, 50 Hz (TN-S Net) UL/cUL: 480/277 +/- 10%, 60 Hz (5 Wire WYE; L1,L2,L3,N,PE (GND))				
Power consumption (kW) approx.	0.1	0.12	0.17	0.42	0.53	0.38	0.7	1.34	.78	1.03	1.34	2.2	2.8	4.0	7.6	15.1

* At 98% UVT, 400 J/m² EOL (end of lamplife)
** Vessel dimensions are approximate and will differ depending on flange size
*** Additional pressures available



Spektron Industrial

Model #	15i	30i	50i	90i
UV transmittance range in % (1cm)	70-98%			
Maximum flow rate (m^3/h / MGD) *	29/ 0.19	48/ 0.31	101/ 0.66	152/ 0.99
DVGW certification	Based on DVGW-tested design			
ÖNORM certified & validated	No			
UVDGM validated	No			
UV Lamps and Monitoring System				
Lamp technology	Ecoray low-pressure high-output			
Power per lamp (W)	230	290	290	230
Number of lamps	1	1	2	3
UV intensity monitoring	Germicidal, ÖNORM compliant			
Individual lamp monitoring	Yes			
UV Reactor				
Protection class	IP 65			
Flow diverter	No			
Cleaning system	Manual			
Reactor material	Stainless steel 1.4404 / 1.4435 (ASTM 316L)			
Flange sizes (DN)	65	80	100	125
Dimensions (A) (mm / Inch) **	1340/ 52.8	1660/ 65.4	1660/ 65.4	1610/ 63.4
Dimensions (B) (mm / Inch) **	169/ 6.7	169/ 6.7	204/ 8.0	390/ 15.4
Dimensions (C) (mm / Inch) **	170/ 6.7	175/ 6.9	228/ 9.0	275/ 10.8
Dimensions (D) (mm / Inch) **	1380/ 54.4	1800/ 70.9	1800/ 70.9	1500/ 59.1
Maximum operating pressure (bar/PSI) ***	10/145			
UV System Control Cabinet				
Ballast type	Electronic, high-efficiency, variable output (50 to 100% power)			
Controller	EcoTouch			
Materials of construction	Stainless steel			
Electrical standards	CE			
Common outputs	System status, Lamp status, Alarm messages, Process values			
Scada communication	Yes			
Protection class	IP 65			
Supply voltage	230 V, 50-60 Hz, (TN-S net, TN-C net) L1, N, PE (GND)			
Power consumption (kW) approx.	0.35	0.38	0.7	0.78

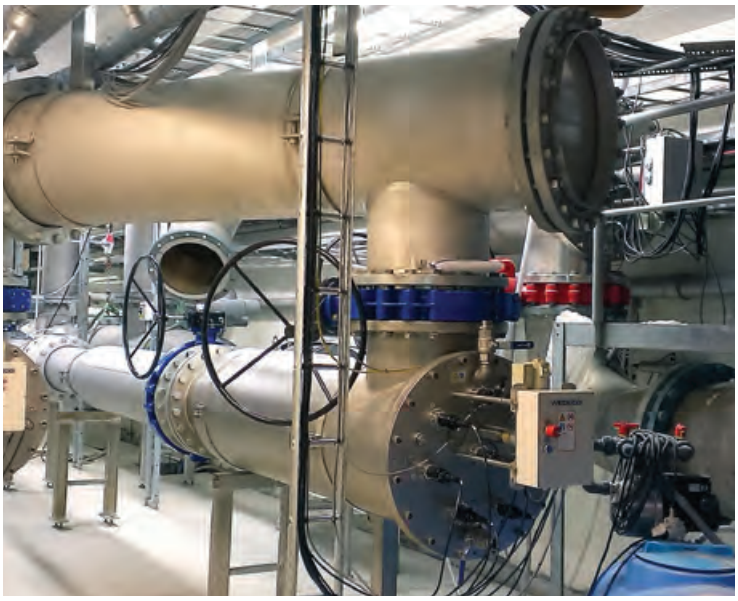
Know-how in treatment technology.

You can rely on the know-how of our engineers and technicians to help you choose the right system for your needs. All recommendations for the design of your system are based on many years of experience and complex calculation methods, and take account of local validation and certification standards.

Our broad knowledge and unrivalled expertise in the field of disinfection along with our full range of highly developed Wedeco UV disinfection systems make Xylem a reliable partner for the application of UV technology in the treatment of drinking water.

TotalCare Services

Our global network of local service centers and partners offer comprehensive service to support secure, efficient and reliable operations. Our first priority is to support you and to maintain your systems for the duration of their service life. This is reflected in our solutions, which include proactive maintenance activities, thereby increasing the reliability of your UV system and optimizing its energy consumption.



Two Spektron 650e UV disinfection systems.

Xylem |'zīləm|

1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services, and agricultural settings. With its October 2016 acquisition of Sensus, Xylem added smart metering, network technologies and advanced data analytics for water, gas and electric utilities to its portfolio of solutions. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com

896847 . Spektron UV Series . 1 . MASTER . 1 . 20170706

xylem
Let's Solve Water

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW

To: Las Virgenes – Triunfo JPA Board of Directors
From: John Freshman and Ana Schwab
Date: September 24, 2018
RE: Federal Report

Army Corps of Engineers Restructuring

The conference report for the Energy-Water, Military Construction-Veterans Affairs, and Legislative Branch appropriation bills raised concern that the Office of Management and Budget – which has the responsibility to oversee the execution of funds, there is concern that OMB is adding additional burdens to the Corps' process that may result in unnecessary delays and potentially overriding technical and expert judgments by the Corps. This concern is raised as a result of the administration's plan to remove the Army Corps of Engineers Civil Works program from the Department of Defense. The conference reports looks to prevent this change by preventing any funds in the FY19 spending bill from being spent on the reorganization effort. If the Administration's plan moves forward the Corps' Civil Works program's would move to the Departments of Interior and Transportation. Interior will focus on flood control and ecosystem management activities and Transportation will focus on navigation projects.

The potential change is not opposed by all. Those in support of the move include Defense Secretary James Mattis, Secretary of the Army Mark Esper, and House Transportation Chairman Bill Shuster.

EPA Restructuring

Former EPA Administrator Pruitt had indicated that he would have liked to restructure the EPA as an organization. Now, Acting Administrator Wheeler has informed the agency that he plans to carry this through. A memo sent by Acting Administrator Wheeler states that the EPA plans to keep all 10 regional offices open, however they will all be reorganized to more closely mimic the EPA's Headquarter Office in Washington, D.C. Currently, the regional offices are made up of local priorities and other unique aspects. Under the proposed plan, each regional office will have the eight main programs within their office – air, water, land, Superfund and emergency response, enforcement, labs, regional counsel and administration. The EPA's Office of Administration and Resource Management will lead an Implementation Working Group, which will have representation from each region, to create the realignment package to be submitted to the Senate and House Appropriations Committees for review.

Sacramento-San Joaquin Delta Tunnels

The majority of the California House of Representative's Republican delegation sent a letter to Speaker Ryan earlier this month requesting that the House-passed provision to prohibit the Department of Interior implementing the State of California's *Bay-Delta Water Quality Control Plan* in the next appropriations legislation that is sent to the President for signature. The House of Representatives passed the Denham Amendment during the Department of Interior Appropriations bill. The amendment prohibits federal agencies from participating in California's plan to deplete the New Melones Reservoir.

Earmarks

At the start of Speaker Ryan's term as speaker a conversation opened among the majority to bring back earmarks. This effort was spearheaded by House Rules Chairman Pete Sessions (R-TX). Speaker Ryan had promised to hold a vote last year on lifting the ban, however he said last week that the new Congress would have to debate the matter. The new Congress convenes on January 3, 2019. The Republicans will be led by a new person due to Speaker Ryan's retirement at the end of this Congress.

Federal Budget

Earlier this month Congress is passed its first package of spending bills. The package includes the Energy-Water, Military Construction-Veterans Affairs, and Legislative Branch appropriation bills. The conference report was released on September 10. The conferenced Energy-Water bill as released was much closer to the Senate version than the House version. The total bill is approximately $1.4 billion from the FY2018 omnibus. The conference report removed a series of controversial water-related riders that were attached to the House bill. The conferenced Energy-Water bill funds the Bureau of Reclamation at $1.57 billion, including $34 million for WaterSMART Grants and $58.61 million for Title XVI. The FY19 conferenced bill funds the Army Corps of Engineers at $7 billion.

Congress is expected to send another spending package to the President after the House of Representatives votes this week. The package includes funding for the Departments of Defense, Labor, Health and Human Services, and Education. Included in this package is a Continuing Resolution to fund any remaining agency through December 7, 2018. The Senate passed this package last week. It is not absolutely confirmed that President Trump will sign the package, he has indicated it does not include the funding he has requested for the wall. The House and the Senate are still in conference negotiations on a third package which includes: Interior-Environment, Agriculture, Financial Services, and Transportation-HUD bills.

The Energy-Water, Military Construction-Veterans Affairs, and Legislative Branch appropriations are the first three appropriation bills passed through regular order for FY2019. Senate Majority Leader and Speaker Paul Ryan have consistently stated that they would like a return to regular order and rid the more recent practice of Continuing Resolutions and Omnibus bills. 2008 was the last year that Congress was able to get three regular spending bills passed into law. The last time all appropriation bills were passed on time was in 1996. The passage of the Departments of Defense, Labor, Health and Human Services, and Education appropriation packages will mark the first time in 22 years that Congress has passed five spending bills on time.

Water Resources Development Act

House and Senate leaders have reached a deal on the Water Resources Development Act (WRDA). The House previously passed its own version, voted this week on the pre-conferenced WRDA bill, titled "America's Water Infrastructure Act." The bill went to the House floor under a fast-tracked procedure that required a two-thirds majority vote. The compromised bill reauthorizes the EPA's Drinking Water State Revolving Fund, includes an assortment of measures to expedite the permitting process for hydropower projects, and will expand WIFIA to allow water storage projects to receive federal funding.

LAS VIRGENES-TRIUNFO - HIGH PRIORITY LEGISLATION IN THE 115TH CONGRESS
SEPTEMBER 2018

Legislation	Summary	Status	Position
H.R. 23 – Gaining Responsibility on Water Act of 2017	This legislation will allow for more water conveyance while protecting the water rights of users, as well. Additionally, the legislation reforms the Central Valley Project Improvement Act and the San Joaquin River Restoration Settlement Act. This legislation would reduce the cost of water delivery contracts and would give users more authority over how restoration funds are spent. The bill purports to expand on a compromise reached between Sen. Dianne Feinstein (D-CA) and House Majority Leader Kevin McCarthy (R-CA) during last year's Water Infrastructure Improvements for the Nation Act discussion. The compromise directed more water to farms by tweaking the way rules meant to protect endangered fish are interpreted when operating the State's waterways.	Introduced by Rep. David Valadao – January 3, 2017 Passed the House of Representatives on July 12, 2017. This measure has not been taken up in the Senate yet.	
H.R. 434 – New Water Available to Every Reclamation State Act or the New WATER Act	This legislation authorizes the Department of the Interior to provide financial assistance, such as loans and guarantees, to entities that contract under federal reclamation law to carry out water projects within the 17 western states served by the Bureau of Reclamation, and Alaska and Hawaii. Eligible Projects include: • non-federal water infrastructure projects that would contribute to a safe, adequate water supply for domestic, agricultural, environmental, or municipal and industrial use; • projects for enhanced energy efficiency in the operation of a water system; • projects for accelerated repair and replacement of aging water distribution facilities; • brackish or sea water desalination projects; and • the acquisition of real property or an interest therein for water storage, reclaimed or recycled water, or wastewater that is integral to such a project.	Introduced by Rep. Jeff Denham – January 11, 2017	

Legislation-con't	Summary-con't	Status-con't	Position-con't
H.R. 448 – Water Conservation Rebate Tax Parity Act	This bill amends the Internal Revenue Code to expand the tax exclusion for energy conservation subsidies provided by public utilities to exclude from gross income subsidies provided (directly or indirectly): (1) by a public utility to a customer, or by a state or local government to a resident of such state or locality, for the purchase or installation of any water conservation or efficiency measure; and (2) by a storm water management provider to a customer, or by a state or local government to a resident of such state or locality, for the purchase or installation of any storm water management measure.	Introduced by Rep. Jared Huffman and Rep. Dana Rohrabacher – January 11, 2017	
S. 32 – California Desert Protection and Recreation Act of 2017	This bill amends the California Desert Protection Act of 1994 to, among other things: • establish or designate wilderness areas, a special management area, off-highway vehicle recreation areas, and a national scenic area; • release specified wilderness study areas; • adjust national park and preserve boundaries; and • specify land withdrawals and conveyances. Specified federal land shall be taken into trust for the Lone Pine Paiute-Shoshone Tribe. Lands and interests in land, including improvements, outside the boundary of Joshua Tree National Park in California may be acquired for the purpose of operating a visitor center. The bill makes amendments to the California Desert Protection Act of 1994 regarding the California State School lands. The bill amends the Wild and Scenic Rivers Act to designate specified segments of rivers and creeks as components of the National Wild and Scenic Rivers System. The bill establishes the Renewable Energy Resource Conservation Fund for use in regions impacted by the development of wind or solar energy.	Introduced by Sen. Dianne Feinstein – January 5, 2017 Committee on Energy and Natural Resources held a hearing on the legislation on July 26, 2017	

Legislation-con't	Summary-con't	Status-con't	Position-con't
S. 692 – Water Infrastructure Flexibility Act	To provide for integrated plan permits, to establish an Office of the Municipal Ombudsman, to promote green infrastructure, and to require the revision of financial capability guidance.	Introduced by Sen. Deb Fischer – March 21, 2017 Passed the Senate on October 5, 2017 This action has not yet been taken up by the House	
H.R. 5596 – Water Infrastructure Resiliency and Sustainability Act of 2018	To authorize the Administrator of the Environmental Protection Agency to establish a program of awarding grants to owners or operators of water systems to increase resiliency or adaptability of the systems to any ongoing or forecasted changes to the hydrologic conditions of a region of the United States.	Introduced by Rep. Salud Carbajal – April 24, 2018	
H.R. 5609 – Water Affordability, Transparency, Equity, and Reliability Act of 2018	To establish a trust fund to provide for adequate funding for water and sewer infrastructure, and for other purposes.	Introduced by Rep. Keith Ellison – April 25, 2018	
S. 2771 – Residential Decentralized Wastewater System Improvement Act	To amend the Federal Water Pollution Control Act to require the Administrator of the Environmental Protection Agency to provide grants for the construction, refurbishing, and servicing of individual household decentralized wastewater systems to individuals with low or moderate income.	Introduced by Sen. Cory Booker – April 26, 2018	

Legislation-con't	Summary-con't	Status-con't	Position-con't
S. 2772 – A bill to amend the Consolidated Farm and Rural Development Act to modify provisions relating to the household water well system grant program.	To amend the Consolidated Farm and Rural Development Act to modify provisions relating to the household water well system grant program.	Introduced by Sen. Cory Booker – April 26, 2018	
H.R. 2510 – Water Quality Protection and Job Creation Act of 2017	To amend the Federal Water Pollution Control Act to authorize appropriations for State water pollution control revolving funds, and for other purposes.	Introduced by Rep. Peter DeFazio – May 18, 2017	
S. 2800 – America's Water Infrastructure Act of 2018	To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes.	Introduced by Sen. John Barrasso – May 8, 2018 Passed the Senate Environment and Public Works Committee on May 22, 2018	
H.R. 8 – Water Resources Development Act of 2018	To provide for improvements to the rivers and harbors of the United States, to provide for the conservation and development of water and related resources, and for other purposes.	Introduced by Rep. Bill Shuster – May 18, 2018 Passed the House on June 6, 2018	
S. 2969 – Rural Water Infrastructure Improvement Act of 2019	To amend the Consolidated Farm and Rural Development Act to improve water or waste disposal grants or direct or guaranteed loans, and for other purposes.	Introduced by Sen. Tammy Baldwin – May 24, 2018	

Legislation-con't	Summary-con't	Status-con't	Position-con't
H.Res. 923 – Providing for further consideration of the bill (H.R. 5895)	Providing for further consideration of the bill (H.R. 5895) making appropriations for energy and water development and related agencies for the fiscal year ending September 30, 2019, and for other purposes, and providing for consideration of the bill (H.R. 3) to rescind certain budget authority proposed to be rescinded in special messages transmitted to the Congress by the President on May 8, 2018, in accordance with title X of the Congressional Budget and Impoundment Control Act 1974.	Introduced by Rep. Michael Burgess – June 6, 2018 Passed the House on June 7, 2018	
S. 3012 – Water Technology Acceleration Act	To establish an innovative water technology grant program and to amend the Safe Drinking Water Act and the Federal Water Pollution Control Act to encourage the use of innovative water technology, and for other purposes.	Introduced by Sen. Tammy Baldwin – June 6, 2018	
S. 3015 – Water Affordability Act	To amend the Federal Water Pollution Control Act to establish a low-income sewer and drinking water assistance pilot program, and for other purposes.	Introduced by Sen. Kamala Harris – June 6, 2018	
S. 3001 – Contra Costa Canal Transfer Act	To authorize the Secretary of the Interior to convey certain land and facilities of the Central Valley Project.	Introduced by Sen. Diane Feinstein – June 6, 2018	
H.R. 6040 – Contra Costa Canal Transfer Act	To authorize the Secretary of the Interior to convey certain land and facilities of the Central Valley Project.	Introduced by Rep. Mark DeSaulnier – June 7, 2018 Hearing held in House Natural Resources Subcommittee on Water and Power	
S. 3087 – Living Shorelines Act of 2018	To direct the Administrator of the National Oceanic and Atmospheric Administration to make grants to State and local governments and nonprofit organizations for purposes of carrying out shoreline stabilization projects utilizing natural materials that support natural habitats and ecosystem functions, and for other purposes.	Introduced by Sen. Kamala Harris – June 19, 2018	

Legislation-con't	Summary-con't	Status-con't	Position-con't
S. 3121 – Water Infrastructure Transparency Act	To amend the Federal Water Pollution Control Act, the Safe Drinking Water Act, and the Water Infrastructure Finance and Innovation Act of 2014 to require maximum open and free competition in procurement for projects receiving assistance under those Acts, and for other purposes.	Introduced by Sen. Rand Paul – June 25, 2018	
H.R. 6267 – COAST Research Act	To amend the Federal Ocean Acidification Research and Monitoring Act of 2009 to establish an Ocean Acidification Advisory Board, to expand and improve the research on Ocean Acidification and Coastal Acidification, to establish and maintain a data archive system for Ocean Acidification data and Coastal Acidification data, and for other purposes.	Introduced by Rep. Suzanne Bonamici – June 28, 2018	
S. 3192 – Contaminant and Lead Electronic Accounting and Reporting Requirements (CLEARR) for Drinking Water Act of 2018	To amend the Safe Drinking Water Act to update and modernize the reporting requirements for contaminants, including lead, in drinking water, and for other purposes.	Introduced by Sen. Ed Markey – July 11, 2018	
H.R. 6354 – STORAGE Act of 2018	To amend the Endangered Species Act of 1973 to prohibit designation as critical habitat of certain areas in artificial water diversion or delivery facilities.	Introduced by Rep. Paul Gosar – July 12, 2018	
S. 3303 – Water Quality Certification Improvement Act of 2018	To amend the Federal Water Pollution Control Act to make changes with respect to water quality certification, and for other purposes.	Introduced by Sen. John Barrasso – July 31, 2018	*Watch*
S. 3341 – IMAGINE Act	To encourage the research and use of innovative materials and associated techniques in the construction and preservation of the domestic transportation and water infrastructure system, and for other purposes.	Introduced by Sen. Sheldon Whitehouse – August 1, 2018	*Watch*
H.R. 6653 – IMAGINE Act	To encourage the research and use of innovative materials and associated techniques in the construction and preservation of the domestic transportation and water infrastructure system, and for other purposes.	Introduced by Rep. Elizabeth Etsy – August 3, 2018	*Watch*
S. 3358 – Sustainable Water Infrastructure Investment Act of 2018	A bill to amend the Internal Revenue Code of 1986 to provide that the volume cap for private activity bonds shall not apply to bonds for facilities for furnishing of water and sewage facilities.	Introduced by Sen. Bob Menendez – August 21, 2018	

Legislation-con't	Summary-con't	Status-con't	Position-con't
S. 3381 – PFAS Accountability Act of 2018	A bill to encourage Federal agencies to expeditiously enter into or amend cooperative agreements with States for removal and remedial actions to address PFAS contamination in drinking, surface, and ground water and land surface and subsurface strata, and for other purposes.	Introduced by Sen. Debbie Stabenow – August 23, 2018	
S. 3382 - PFAS Detection Act of 2018	A bill to require the Director of the United States Geological Survey to perform a nationwide survey of perfluorinated compounds, and for other purposes.	Introduced by Sen. Debbie Stabenow – August 23, 2018	
S. 3394 – Comprehensive National Mercury Monitoring Act	A bill to establish a national mercury monitoring program, and for other purposes.	Introduced by Sen. Susan Collins – August 28, 2018	
H.R. 6705 – To amend the Safe Drinking Water Act to require the Administrator of the Environmental Protection Agency to publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for perchlorate, and for other purposes.	To amend the Safe Drinking Water Act to require the Administrator of the Environmental Protection Agency to publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for perchlorate, and for other purposes	Introduced by Rep. Tony Cardenas – September 5, 2018	
H.R. 6727 – Water Technology Acceleration Act	To establish an innovative water technology grant program and to amend the Safe Drinking Water Act and the Federal Water Pollution Control Act to encourage the use of emerging and innovative water technology, and for other purposes.	Introduced by Rep. Gwen Moore – September 6, 2018	
H.R. 6750 – Santa Monica Mountains National Recreation Area Boundary Adjustment Study Act	To direct the Secretary of the Interior to conduct a special resource study of portions of the Los Angeles coastal area in the State of California to evaluate alternatives for protecting the resources of the coastal area, and for other purposes.	Introduced by Rep. Ted Lieu – September 7, 2018	

Legislation-con't	Summary-con't	Status-con't	Position-con't
H.R. 6759 – Land and Water Conservation Authorization and Funding Act	To amend title 54, United States Code, to provide consistent and reliable authority for, and for the funding of, the Land and Water Conservation Fund to maximize the effectiveness of the Fund for future generations, and for other purposes.	Introduced by Rep. Raul Grijalva – September 10, 2018	
H.R. 6782 – Sustainable Water Supplies Act	To determine the feasibility of additional agreements for long-term use of existing or expanded non-Federal storage and conveyance facilities to augment Federal water supply, ecosystem, and operational flexibility benefits in certain areas, and for other purposes.	Introduced by Rep. Mark DeSaulnier – September 12, 2018	
H.R. 6804 – Onsite Wastewater Recycling Efficiency Act	To improve processes for alternative wastewater systems, and for other purposes.	Introduced by Rep. Brian Babin – September 13, 2018	
H.R. 6818 – Clean Water Infrastructure Act	To amend the Safe Drinking Water Act to increase assistance for States, water systems, and disadvantaged communities; to encourage good financial and environmental management of water systems; and to strengthen the Environmental Protection Agency's ability to enforce the requirements of the Act, and for other purposes.	Introduced by Rep. A. Donald McEachin – September 13, 2018	
H.R. 6835 – PFAS Federal Facility Accountability Act of 2018	To encourage Federal agencies to enter into or amend cooperative agreements with States for removal and remedial actions to address PFAS contamination in drinking water, surface water, ground water, sediment, and soil, and for other purposes.	Introduced by Rep. Fred Upton – September 17, 2018	

FY2019 Appropriations

Legislation	Summary	Status	Position
H.R. 5895 – Energy and Water Development and Related Agencies Appropriations Act, 2019	Funding for the Army Corps of Engineers , the Department of the Interior – Bureau of Reclamation, and the Department of Energy	Introduced by Rep. Michael Simpson – May 21, 2018 Signed into law	
S. 2975 – Energy and Water Development and Related Agencies Appropriations Act, 2019	Funding for the Army Corps of Engineers , the Department of the Interior – Bureau of Reclamation, and the Department of Energy	Introduced by Sen. Lamar Alexander – May 24, 2018 Signed into law	
House Interior, Environment, and Related Agencies Appropriations Act, 2019	Funding for the Department of the Interior, the Environmental Protection Agency, the Forest Service, the Indian Health Service, and various independent and related agencies.	Introduced by Rep. Ken Calvert In Conference Committee	
Senate Interior, Environment, and Related Agencies Appropriations Act, 2019	Funding for the Department of the Interior, the Environmental Protection Agency, the Forest Service, the Indian Health Service, and various independent and related agencies.	Introduced by Sen. Lisa Murkowski In Conference Committee	

State Bills of Interest
Updated 9/26/18

	Bill	Author	Description	Status
1	AB 1529	(Thurmond)	Cross-Connections and Backflow Prevention Device Inspectors - Certification	Enrolled and presented to the Governor at 3 pm on 9/4/18.
2	AB 2042	(Steinorth-R)	Residential graywater reuse systems: incentives. Financial incentives for residential graywater reuse systems.	In Assembly Appropriations Committee. Held under submission as of 5/25/18.
3	AB 2050	(Caballero-D)	Small System Water Authority Act of 2018. Creation of small system water authorities that can absorb non-compliant water systems.	Enrolled and presented to the Governor at 3 pm on 9/5/18.
4	AB 2064	(Gloria)	Integrated regional water management plans - Advanced Payment	Enrolled and presented to the Governor at 3 p.m. on 9/9/18.
5	AB 2072	(Quirk-D)	State Water Resources Control Board: contaminants of emerging concern. Establishes a program to research contaminants of emerging concern (CECs) that can enter drinking water supplies.	Passed Assembly Environmental Safety and Toxic Materials Committee. Held in Assembly Appropriations Committee and held under submission as of 5/25/18.
6	AB 2241	(Rubio-D)	Sustainable water use and demand reduction: legislative findings and declarations. Non-substantive changes to the law, which requires urban water use statewide to be reduced by 20% (20x2020).	Passed Assembly Water, Parks and Wildlife Committee. Referred to Assembly Appropriations Committee and held under submission as of 5/25/18.
7	AB 2242	(Rubio-D)	Urban water management planning. Non-substantive changes to the law.	Passed Assembly Water, Parks and Wildlife Committee. Ordered to inactive file on 6/4/18.
8	AB 2266	(Bigelow-R)	Urban water management planning. Non-substantive changes to the law.	Amended and re-referred to Assembly Water, Parks and Wildlife Committee as of 3/19/18.
9	AB 2283	(Holden-D)	Income taxes: exclusion: turf removal water conservation program. Would allow for dollar amounts received in rebates to be excluded from gross income for the purpose of calculating personal income tax.	In Assembly Appropriations Committee. Held under submission as of 5/25/18.
10	AB 2341	(Mathis-R)	California Environmental Quality Act: aesthetic impacts. Would establish that under certain conditions, aesthetics do not have impacts on the environment.	Approved by the Governor on 9/7/18.
11	AB 2353	(Frazier-D)	Construction defects: requires that in the case of disputes related to construction defects, the inspector needs to be a licensed contractor in the same field as the work in dispute.	Passed by the Senate Judiciary Committee. Ordered to inactive file as of 8/16/18.

State Bills of Interest
Updated 9/26/18

	Bill	Author	Description	Status
12	AB 2371	(Carillo-D)	Water use sustainability: irrigation. Refinements to the Water Conservation in Landscaping Act, which requires the Department of Water Resources to update its model water-efficient landscape ordinance.	Passed by both houses - to engrossing and enrolling on 8/29/18.
13	AB 2379	(Bloom-D)	Requires that certain clothing items include warning labels and washing instructions at point of sale to help prevent the introduction of plastic microfibers into the environment when they are washed.	Not seen by the Senate. Ordered to inactive file on 6/4/18.
14	AB 2447	(Reyes)	Requires notification to residents of scoping meetings for projects within 1/2 mile radius.	Passed by both houses - to engrossing and enrolling on 8/30/18.
15	AB 2501	(Chu-D)	Drinking water: consolidation and extension of service. Provides a definition for "disadvantaged communities" for the purposes of requiring small public water systems to be consolidated.	Passed by both houses - to engrossing and enrolling on 8/31/18.
16	AB 2692	(Arambula-D)	Water: infrastructure funding. Would provide a permanent source of water infrastructure funding.	Amended in Assembly Environment, Safety and Toxic Materials Committee. First hearing cancelled at request of author on 4/24/18.
17	AB 2957	(Gallagher-R)	Safe and reliable water supplies. Offers incentives to encourage innovation to ensure Californians have access to safe a reliable water supplies.	Has not been heard in the Senate. Last heard in the Assembly Appropriations Committee and held under submission on 5/25/18.
18	AB 3045	(Gallagher-R)	Natural Resources Agency: Division of Safety of Dams. Would transfer authority and the Division of Safety of Dams from the Department of Water Resources to the Natural Resources Agency.	Has not been heard in the Senate. Last heard in the Assembly Appropriations Committee and held under submission on 5/25/18.
19	AB 3056	(Harper-R)	Desalinated water. Supports desalination to bolster California's water supply.	No activity and has not been heard in any committees.
20	AB 3155	(Cooper-D)	Expands the meaning of the term "public works" to include warranty work, which would also require the payment of prevailing wages.	Referred to Committee on Labor and Employment on 3/12/18.
21	SB 1215	(Hertzberg-D)	Drinking water systems and sewer systems: consolidation and extension of service. Establishes timelines and performance measures.	Passed both houses - to engrossing and enrolling on 8/31/18.
22	SB 1263	(Portantino-D)	Calls for studying and making funds available for the study of sources of plastic microfibers in the environment.	Enrolled and presented to the Governor at 4 p.m. on 9/6/18.
23	SB 1301	(Beall-D)	State permitting: environment: processing times. Requires several state agencies to track and disclose permit processing times.	Passed both houses - to engrossing and enrolling on 8/28/18.

State Bills of Interest
Updated 9/26/18

	Bill	Author	Description	Status
24	SB 1422	(Portantino-D)	California Safe Drinking Water Act: microplastics. Testing and reporting requirements for microplastics.	Passed both houses - to engrossing and enrolling on 8/31/18.
25	SB 1498	(Stern-D)	Modifies language to existing law that would not exclude reservoir augmentation projects from receiving grant funds that are provided under certain bond measures.	Dead
26	SB 606/AB 1668 (2017)		Conservation as a California Way of Life. Establishes new criteria for water conservation. Potentially updates/revises criteria associated with the 20% by 2020 water conservation target mandated by SB 7 (Steinberg).	Signed into law by the Governor on 5/31/18.
27	SB 623 (2017)	(Monning-D)	Safe and Affordable Drinking Water Fund. Imposes a water tax on individual water service connections.	Last heard by Assembly Appropriations Committee and referred to Rules Committee on 9/19/17. (See SB 845)
28	SB 831	(Wieckowski-D)	Prevents the ability for utilities to charge connection fees for water and sewer services to accessory dwelling units.	In Assembly Committee on Local Government and held in Committee w/out recommendation on 6/27/18.
29	SB 845	(Monning-D)	Safe and Affordable Drinking Water Fund.	SB 845 was gutted and amended to include language from SB 623. Re-referred to Appropriations Committee on 8/24/18.
30	SB 952	(Anderson-R)	Water conservation: local water supplies. Gives credit to water agencies for investments made in local water supply projects toward water efficiency and conservation mandates.	Referred to Committee on Rules 2/8/18.
31	SB 998	(Dodd-D)	Water shutoffs: urban and community water systems. Imposes strict requirements on water utilities before a water service can be turned off for non-payment.	Enrolled and presented to the Governor at 4 p.m. on 9/6/18.

ITEM 10B

INFORMATION ONLY

October 1, 2018 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Tapia Water Reclamation Facility Fiscal Year 2017-18 Rehabilitation Project: Change Order No. 2

The Las Virgenes-Triunfo Joint Powers Authority approved funding for this matter in the Joint Powers Authority Budget. On August 28, 2018, the LVMWD Board, acting as the Administering Agent of the Joint Powers Authority, authorized the General Manager to approve Change Order No. 2 with GSE Construction Company, Inc, in the amount of $159,717, including a 21-calendar-day extension of the contract duration, for replacement of eight additional slide gates/boxes as part of the Tapia Water Reclamation Facility Fiscal Year 2017-18 Rehabilitation Project.

SUMMARY:

On July 11, 2018, the JPA Board awarded a construction contract to GSE Construction Company, Inc. (GSE), in the amount of $1,369,000, for the Tapia Water Reclamation Facility Fiscal Year 2017-18 Rehabilitation Project. As a part of the project, GSE will replace 12 of 20 slide gates/boxes for Channel No. 4 of Tapia's secondary sedimentation basins. Change Order No. 2, in the amount of $159,717 or 11.7% of the total bid, would add the replacement of the remaining eight slide gates/boxes to the scope of work. The replacement of the remaining eight gates was originally planned and budgeted as a separate project with a budget of $556,600. Change Order No. 2 provides a significant cost-saving opportunity to the District by taking advantage of favorable unit pricing offered by GSE for the replacement to the eight remaining gates/boxes.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funding is available through the approved Fiscal Year 2018-2019 JPA Budget. No additional appropriation is required.

DISCUSSION:

GSE submitted the lowest responsive bid for the Tapia Water Reclamation Facility Fiscal Year 2017-18 Rehabilitation Project, in the amount of $1,369,000, which was approximately 28% lower than the Engineer's Estimate. As a part of the project, GSE will replace 12 of 20 existing slide gates/boxes in Channel No. 4 of Tapia's secondary sedimentation basins. The remaining eight gates were planned and budgeted for replacement under a separate project (CIP Job No. 10658 - Tapia Sluice Gate and Drive Replacement) with a budget of $556,600.

Due to the contractor's competitive unit pricing for the gate replacement work, staff requested a proposal for the replacement of the remaining eight gates. GSE provided proposed Change Order No. 2, in the amount of $159,717, for the replacement of the remaining eight gates and any associated dewatering that would be required. The proposal amount is significantly lower than the Engineer's Estimate for the work and provides a significant cost-savings to the District through economies of scale and by extending the unit prices provided in GSE's bid. During design of the project, staff received a price quote of $28,581 per gate/box combination, for material only, from the existing gate manufacturer. GSE's bid for the project provided a unit price of $18,800 each for the complete replacement of the gates/boxes, including all labor and materials. The next lowest bidder's unit price was $18,900 each.

In addition to the cost-savings achieved by incorporating Change Order No. 2 into the current project, the District would also experience cost-savings by eliminating the need for additional design, contract document preparation, bidding, mobilization, and bonding/insurance that would be associated with a stand-alone project.

Due to the configuration of the drain for Channel No. 4, Tapia staff will need to temporarily bypass the Return Activated Sludge (RAS) system during the replacement of the eight additional gates. During this time, there is a potential for exceedance of the phosphorus limits for discharge. However, staff will make every effort to mitigate the potential for an exceedance during this work. It is noted that the same potential for exceedance exists whether the work is performed as a part of the current project through Change Order No. 2 or through a separate project in the future.

Attached for reference is a copy of Change Order No. 2.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Coleman Olinger, P.E., Associate Engineer

ATTACHMENTS:

Change Order No. 2

CONTRACT CHANGE ORDER
No. 2

4232 Las Virgenes Road
Calabasas, California 91302-1994

Project Tapia Rehabilitation Project FY 17-18 Project No. Acct # 10653.1880.605

Contractor GSE Construction Co Date: 8/16/2018

CONTRACTOR CHANGE ORDER NO. 2 The Contractor is hereby authorized and directed to make the herein described changes from the Plans and Specifications or do the following work not included in the Plans and Specifications for the construction of this project.

This change requested by: GSE Construction Co

DESCRIPTION OF CHANGE:

	Description	Amount
1	**Contractor Change Order Request** *Item One: This change order incorporates the complete replacement of 8 additional weir-gate and sludge box combinations on Channel No. 4 at the Tapia Water Reclamation Facility through an extension of bid item #24 (page 2/2). Any and all additional work, materials or costs required to complete the replacement is included on this page. See attached PCO#002 as incorporated reference.	$9,317
	TOTAL	**$9,317**

INCREASES
TOTAL AT AGREED PRICES OR FORCE ACCOUNT $9,317
~~DECREASES~~

Contract Change Order No. 2 Project No. 10653 Acct. No. 10653.1880.605
Date 8/16/2018

(2) Estimate of increases and/or decreases in contract items at contract unit prices:

INCREASES

Item	Description	Quantity	Unit Price	Total
24	Remove Weir-Gate and Sludge Box Combination and Replace With SST Weir Gate and Sludge Box Combination	8	$18,800	$150,400

TOTAL INCREASES $150,400

DECREASES

Item	Description	Quantity	Unit Price	Total

TOTAL DECREASES N/A

TOTAL NET INCREASE IN CONTRACT ITEMS AT CONTRACT UNIT PRICES $150,400

INCREASE

TOTAL COST OF THIS CHANGE ORDER $159,717

~~DECREASE~~

It is agreed 21 calendar days' extension of time will be allowed by reason of this change.

Recommended by

Coleman Olinger, P.E.
Associate Engineer

Departmental Approval EWS

David R. Lippman
Director of Facilities and Operations

ACCEPTED:

GSE Construction Co.

By:

Date: 08/16/2018

APPROVED:

Las Virgenes Municipal Water District

By:
David W. Pedersen, General Manager

Date: 09/04/18

Note: Attention is called to the sections of the Special Provisions and Standard Provisions on EXTRA, ADDITIONAL OR OMITTED WORK.

■ THIS CHANGE ORDER IS NOT EFFECTIVE UNTIL APPROVED BY OWNER

□ IF ACCEPTABLE TO THE CONTRACTOR, THIS CHANGE ORDER IS EFFECTIVE IMMEDIATELY

GSE CONSTRUCTION

PCO #002

GSE Construction
26027 Huntington Lane, Unit D
Valencia, California 91355
Phone: (661) 295-4960
Fax: (661) 295-5031

Project: 720 - LVMWD - Tapia Reclamation Facility Rehab FY 17-18
731 Malibu Canyon Rd
Calabasas, California 91302

Prime Contract Potential Change Order #002: CE #002 - Additional Weir-Gate/Sludge Boxes

TO:	Las Virgenes Municipal Water District 4232 Las Virgenes Road Calabasas California, 91302	**FROM:**	GSE Construction Co. 6950 Preston Ave. Livermore California, 94551
PCO NUMBER/REVISION:	002 / 0	**CONTRACT:**	1 - LVMWD - Tapia Reclamation Facility Rehab FY 17-18 Prime Contract
REQUEST RECEIVED FROM:	Coleman Olinger **(Las Virgenes Municipal Water District)**	**CREATED BY:**	Ryan Lippincott **(GSE Construction Co.)**
STATUS:	Pending - In Review	**CREATED DATE:**	8/13 /2018
REFERENCE:		**PRIME CONTRACT CHANGE ORDER:**	#002 - CO #002 - Additional Weir-Gate/Sludge Boxes
FIELD CHANGE:	No		
LOCATION:		**ACCOUNTING METHOD:**	Amount Based
SCHEDULE IMPACT:	21 days	**PAID IN FULL:**	No
		TOTAL AMOUNT:	$159,717.00

POTENTIAL CHANGE ORDER TITLE: CE #002 - Additional Weir-Gate/Sludge Boxes

CHANGE REASON: Client Request

POTENTIAL CHANGE ORDER DESCRIPTION: *(The Contract Is Changed As Follows)*
This change order incorporates the replacement of the western 8 weir-gate and sludge box combinations on Channel No. 4 at the Tapia Water Reclamation Facility. These gates are adjacent to the 12 gates being replaced as part of the Tapia Water Reclamation Facility Rehabilitation Project. This change order includes everything needed for the replacement of these 8 gates/boxes, with the same materials as used for the other 12 gates from bid item 24 of the contract. Contractor is aware that there is not a bottom drain on this side of Channel 4 as there is on the east side – so initial dewatering would require removal of all of the water in this segment of the channel, and then continued removal of nuisance water that bypasses the metal stop log (anticipated to be a flow which can be pumped using 2 - 2" 79 gpm submersible trash pumps) . Contractor will provide the District with 1 weeks' notice before switching from the 12 gate side of Channel 4, to the 8 gate side for this work, so that the secondary basins can be switched and balanced. The proposal is a unit price ($/EA) for the complete removal and replacement, inclusive of all required parts, materials, labor, taxes, freight, etc for the replacement of eight (8) weir gate / sludge box combinations.

Contract extension of 21 days is included to complete the work.

ATTACHMENTS:

PCO #2_Additional Weir Gates R1.pdf _Tapia Rehab 17-18 estimate request (additional units for bid item 24).msg_

#	Cost Code	Description	Type	Amount
1				$ 159,717.00
			Subtotal:	$159,717.00
			Grand Total:	**$159,717.00**

Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas California 91302

GSE Construction Co.
6950 Preston Ave.
Livermore California 94551

SIGNATURE	DATE	SIGNATURE	DATE	SIGNATURE	DATE

GSE CONSTRUCTION INC.
PROJECT: ***Tapia Water Reclamation Facility Rehabilitation***
PROJECT No. : 720

DATE: 8/16/2018
GSE CC CE #2
CLIENTS CO #2

CHANGE ORDER CALCULATION

DESCRIPTION OF CHANGE:
8 Additional Weir Gates / Sludge Box

DESCRIPTION	QUANTITY	UNIT	UNIT PRICES			LABOR		DIRECT COSTS				TOTAL DIRECT COST
			EQUIP.	MATERIAL	LABOR	HOURS	RATE	EQUIP.	MATERIAL	LABOR	S/CONTRACT	
Slide Gates (Material and Labor From Bid)*	**8**	**EA**		$18,800					$150,400		$0	$150,400
Dewatering/Nuisance Water Removal												
Mechanical Foreman	8	HR			1	8.0	108.65	$0	$0	$869	$0	$869
Laborer	24	HR			3	72.0	71.81	$0	$0	$5,170	$0	$5,170
2 -3" Trash Pumps (Includes Fuel)	16	HR	$29.66					$475	$0	$0	$0	$475
2 - 2" Submersible Pumps	104	HR	$10					$1,040	$0	$0	$0	$1,040
Miscellaneous Materials	1	LS		$500				$0	$500	$0	$0	$500
Sales tax	9.50	%							$48			$48
TOTALS						80.0		$151,915	$548	$6,040	$0	$158,502
MARKUP EQUIPMENT	**15 %**							**$227**				**$227**
MARKUP MATERIALS	**15 %**								**$82**			**$82**
MARKUP ON LABOR	**15 %**									**$906**		**$906**
MARKUP SUBCONTRACTS	**5 %**										**$0**	**$0**
TOTAL CHANGE COST												**$159,717**

Change Order Unit Price = $19,965 / Slide Gate

ITEM 10C

INFORMATION ONLY

October 1, 2018 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Replacement of Tapia Primary and Secondary Clarifier Drive Equipment: Authorization of Purchase Order

---

The Las Virgenes-Triunfo Joint Powers Authority approved funding for this matter in the Joint Powers Authority Budget. On September 25, 2018, the LVMWD Board, acting as Administering Agent of the Joint Powers Authority, authorized the General Manager to issue a purchase order to the Frost Company, in the amount of $66,280, for the purchase and installation of three new drive units for the primary scum collection system and the conversion of a secondary sludge collection drive to the Bibbiguard system at the Tapia Water Reclamation Facility.

SUMMARY:

As a part of the on-going maintenance of the Tapia Water Reclamation Facility, equipment that has reached the end of its service life is considered for replacement. The three drives for the primary scum collection system, which moves helical skimmers in the primary clarifiers, are at the end of their useful life and in need of replacement. The drives are all at least 30 years old.

In addition, staff proposes to continue the process of the converting the sludge collection drives for the secondary clarifiers to the Bibbiguard torque limiter system, which allows for the drives to automatically disengage from the motor on high torque and be easily reset. The existing sludge collection drives contain shear pins, which break on high torque and need to be manually replaced to allow for the drive to be put back in service.

Staff requested quotes from the two vendors who are authorized to provide the new scum collection drives and Bibbiguard torque limiters for the Polychem system that is installed in the clarifiers at Tapia. The Frost Company was the only firm to provide a quote, which included all of the materials and installation. Staff recommends that the replacement of the primary clarifier scum drives and the conversion of one secondary drive to the Bibbiguard system be awarded to the Frost Company.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds are available for the work in the adopted Fiscal Year 2018-19 JPA Budget. The cost of the work will be allocated 70.6% to LVMWD and 29.4% to Triunfo Sanitation District.

DISCUSSION:

As a part of the on-going maintenance of the Tapia Water Reclamation Facility, equipment that is at the end of its useful service life is considered for replacement. The drives for the primary scum collection system, which turn helical skimmer to move scum into a trough in the primary clarifiers, are at the end of their useful life and in need of replacement. Two of the primary clarifiers at Tapia were constructed in 1970, another was built in 1979 and two more were built in 1987. The three drives for the scum collection system for these clarifiers are all at least 30 years old and in need of replacement.

The drives for the secondary clarifier sludge collection system were replaced in an earlier project. One of the features not included with these drives is the Bibbiguard torque limiter system, which allows for the drive to automatically disengage from the motor on high torque and be easily reset by pushing the shaft back into place. The existing drives contain shear pins, which break on high torque and need to be replaced for the drive to be put back into service. The shear pins can be problematic in that they may not break soon enough, causing damage to the sludge collection system. Additionally, the shear pins can be difficult to replace once they have broken. One of the five secondary drives was converted to the Bibbiguard system last year and has performed well. Staff proposes to install the Bibbiguard system on another drive this year and eventually convert the remaining three secondary clarifier drives to the Bibbiguard system.

Quotes were requested from the two local vendors who are authorized to provide the scum drives and Bibbiguard torque limiters for the Polychem collection system that is installed in all of the clarifiers at Tapia. A quotation provided by the Frost Company, in the amount of $66,280 ($56,780 for the scum drives and $9,500 for conversion of the secondary drive to the Bibbiguard system). The other authorized vendor, Gierlich-Mitchell, did not submit a quotation.

Having the equipment installed by an authorized vendor is preferable to using a third-party contractor because the installation will meet the requirements of the manufacturer without the need for an authorized vendor to perform construction inspection. As a result, staff recommends award of the work to the Frost Company.

Attached for reference is a copy of the Frost Company proposal and photos of the primary and secondary clarifier drives.

Prepared by: Brett Dingman, Water Reclamation Manager

ATTACHMENTS:

Proposal from Frost Company
Photos of Clarifier Drives

FROST COMPANY

5172 Sisson Drive
Huntington Beach , California 92649
Cell Phone: 714 343-7636
Email: mike.antonson@msn.com

8-29-2018

Las Virgenes Water District

Attention: Mike Varbel
Subject: Quote for Las Virgenes Helical Skimmer Gear Box Replacement

Dear Mike,

Frost Company proposes to furnish labor, materials, tools, and supervision necessary to remove qty:3 existing gearboxes on the primary clarifier helical skimmer drives, install qty:3 same type Eurodrive gearbox as primary drives, and fabricate stainless steel covers
for the sum of.....$56,780.00 total.

Our Price is based on the following:

1. Straight Time
2. Frost company to purchase qty:3 Sew-Eurodrive gearboxes.
3. Frost Company to provide all necessary jaw clutches, shafts, keys, anchors, frames, covers etc.
4. Plant responsible for all lockout and tagout necessary for work.
5. Disposal of old equipment by others.
6. Lead time for gearboxes is approx. 6 – 8 weeks.
7. Any unforeseen/undisclosed issues/repairs can be discussed at a T & M pricing.

If you have any questions please call (714) 343-7636.

Thank you,

Mike Antonson
Frost Company

****Price Valid for 30 days****

FROST COMPANY

5172 Sisson Drive
Huntington Beach , California 92649
Cell Phone: 714 343-7636
Email: mike.antonson@msn.com

9-20-2018

Las Virgenes Water District

Attention: Mike Varbel
Subject: Quote for Las Virgenes Secondary Clarifier Bibbigards

Dear Mike,

Frost Company proposes to furnish labor, materials, tools, and supervision necessary to purchase bibbiguards for the secondary clarifiers the sum of.....$9,500.00

Price Breakdown :
Materials – Bibbiguards (qty:2), new Stainless Steel Keys.....$9,500.00

Our Price is based on the following:

1. Straight Time
2. Frost company to purchase bibbigards.
3. Lead time for bibbigards – approx.. 8 – 12 weeks weeks
4. Any unforeseen/undisclosed issues/repairs can be discussed at a T & M pricing.

If you have any questions please call (714) 343-7636.

Thank you,

Mike Antonson
Frost Company

****Price Valid for 30 days****

Proposed Replacement Drive

Proposed Bibbiguard System for Secondary Sludge Collection System Drive

Existing Jaw Clutch System for Secondary Sludge Collection System Drive

ITEM 10D

INFORMATION ONLY

October 1, 2018 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Tapia Tertiary Filter Media Replacement: Authorization of Purchase Order

---

The Las Virgenes-Triunfo Joint Powers Authority approved funding for this matter in the Joint Powers Authority Budget. On September 25, 2018, the LVMWD Board, acting as Administering Agent of the Joint Powers Authority, authorized the General Manager to issue a purchase order to ERS Industrial Services, Inc., in the amount of $83,350.98, for tertiary filter media replacement in Filter Nos. 1 and 2 at the Tapia Water Reclamation Facility.

SUMMARY:

One of the scheduled maintenance projects included in the adopted Fiscal Year 2018-19 JPA Budget is the replacement of media in the tertiary filters at the Tapia Water Reclamation Facility. The tertiary filters remove particulate matter in the treated water before it is disinfected. There are 12 tertiary filters at Tapia that need media replacement approximately every 10 to 15 years due to a loss of media from backwashing and a decrease in filter performance. Filter Nos. 1 and 2 are scheduled for media replacement this year. The media was last replaced in these filters in 2005. Each filter contains four feet of anthracite coal over a one-foot layer of gravel, which separates the anthracite from the underdrain. Staff recommends issuing a purchase order to ERS Industrial Services, Inc., the lowest responsive bidder for the work.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds are available for the work in the adopted Fiscal Year 2018-19 JPA Budget. The cost of the work will be allocated 70.6% to LVMWD and 29.4% to Triunfo Sanitation District.

DISCUSSION:

A request for quotes was advertised on the District's website. Three bids were received for the work as follows:

ERS Industrial Services, Inc.	$ 41,675.49 per filter
Carbon Activated Corp.	$ 50,687.50 per filter
Ciaccio Enterprizes	$ 50,830.00 per filter

The cost of media replacement has increased significantly since 2010 when ERS Industrial Services, Inc., replaced the media in Filter Nos. 11 and 12 for $21,111.27 each.

Prepared by: Brett Dingman, Water Reclamation Manager