



**Board Meeting Agenda for Tuesday, October 19, 2021 @ 6:30 pm**

**At The**

**Four Corners Water & Sewer District Office, 495 Quail Run Road,**

**Bozeman, MT, 59718**

**Regular Monthly Meeting**

- 1) Call to Order
- 2) Approval of Draft Meeting Minutes from September 21, 2021
- 3) Public Comment: Non-Agenda Items- Time Limit on public comment 5 minutes

**I. General Business**

- 1) Ordinance 2021-10- Bill & Tidd Second Reading
- 2) Ordinance 2021-12- WTGC, LLC Second Reading
- 3) Ordinance 2021-13- Long First Reading
- 4) Resolution 2021-11- Temporary Employee Housing Benefit
- 5) Resolution 2021-12- Sole Source Procurement for Elk Grove WWTP
- 6) Resolution 2021-13- Land Purchase
- 7) Capital Projects Status
- 8) Bond Results
- 9) Monthly Operation & Maintenance Report
- 10) Monthly Financial Report
- 11) General Manager Topics
- 12) Board Member Topics

**II. Next Meeting Date – Tuesday November 16, 2021**

**III. Adjourn Meeting**

**FOUR CORNERS WATER AND SEWER DISTRICT MINUTES DRAFT  
REGULAR MEETING, September 21, 2021**

**Call to Order**

Board member Nancy Flikkema called the regular meeting of the Four Corners Water and Sewer District (FCWSD) to order at 6:31 pm on Tuesday, September 21, 2021, at the office of the Four Corners Water & Sewer District at 495 Quail Run Road, Bozeman, Montana.

Board Members present: Vice president Nancy Flikkema, member Bob Thelen, member Brad Early, and member Michele Piazza

Staff/Public present: Nathan Bilyeu, general manager Phil George, district administrator Amy Ellingston, secretary Libby Kuenze and attorney Susan Swimley

**Approval of Minutes**

June 15, 2021 Board Meeting

**Motion:** Member Bob Thelen moved to approve the minutes with comments attached. Member Brad Early seconded. No public comment. The minutes were approved 4-0.

**Approval of Minutes**

August 17, 2021 Board Meeting

**Motion:** Member Brad Early moved to approve the minutes as written. Member Bob Thelen seconded. No public comment. The minutes were approved 4-0.

**Public Comment on Non-Agenda Items:**

No public comment.

**New Board Member- Michelle Piazza**

Amy Ellingston, Phil George, and board member Bob Thelen interviewed Michele Piazza.

**Motion:** Member Bob Thelen moved to appoint Michelle Piazza to the board for the remainder of the term. Member Brad Early seconded. No public comment. The board member was approved 3-0.

**Ordinance 2021-11 Firepond Point, LLC- 2nd Reading**

Ordinance 2021-11: An Ordinance Accepting the Annexation Petition of Firepoint LLC for annexation into the Four Corners Water and Sewer District

The property is located in Kennedy Subdivision. The petition is for 16 EDUs. Phil recommends approval.

**Motion:** Member Brad Early moved to pass the 2nd reading of Ordinance 2021-11; member Bob Thelen seconded. No public comment. Motion passed 4-0.

**Ordinance 2021-10 Bill & Tidd's Excellent LLC- 1st Reading**

Ordinance 2021-10: An Ordinance Accepting the Annexation Petition Bill & Tidd's Excellent LLC for annexation into the Four Corners Water and Sewer District

The property is located north of Valley Center adjacent to the North Dykstra Property. The petition is for 10 EDUs. Phil recommends approval.

**Motion:** Member Bob Thelen moved to pass the 1st reading of Ordinance 2021-10; member Brad Early seconded. No public comment. Motion passed 4-0.

**Ordinance 2021- 12 WTGC, LLC- 1st Reading**

Ordinance 2021-12: An Ordinance Accepting the Annexation Petition of WTGC, LLC for annexation into the Four Corners Water and Sewer District

The property is located north of Valley Center adjacent to the North Dykstra Property. The petition is for 50 EDUs. Individual lift stations will not be allowed. Phil recommends approval.

**Motion:** Member Brad Early moved to pass the first reading of Ordinance 2021- 12; member Bob Thelen seconded. No public comment. Motion passed 4-0.

**Ordinance 2021-13- 8330 Huffine, LLC- 1st Reading**

Ordinance 2021-13 : An Ordinance Accepting the Annexation Petition of 8330 Huffine, LLC for annexation into the Four Corners Water and Sewer District

The property is located south of Huffine and east of Cobb Hill. The property is 19 acres for apartment buildings. The petition is for 192 EDUs. Phil recommends approval.

**Motion:** Member Bob Thelen moved to pass the first reading of Ordinance 2021-13; member Bob Thelen seconded. No public comment. Motion passed 4-0.

**ARPA Status**

Phil George offered the report.

- Seeking state funding for some capital projects without headway. Will seek at the county level.

**Bond Discussion/Possible Resolutions**

Phil George and Nathan Bilyeu offered the report.

- FCWSD has 3 special assessment bonds. \$11.3M bond for the WRF must remain with SRF. \$6.7M RD Series 2015 bond and \$9.3M SRF Series 2015 bond will be placed under a new bond, the 2021-A New Bond, at \$14,268,735/ 25 years for a net savings of about \$536K.
- \$3.94M RD Water Bond and \$3.06M SRF Waste Water Bond will be placed under a new bond, the 2021-B New Bond, at \$5,141,304/ 15 years for a net savings of about \$405K.
- The total net savings is about \$941K. This true net savings accounts for all costs of issuance.
- Presently \$780K of the reserves are in a bond at Stip. As future reserve requirements will be \$268K at Stip and \$198K sent to Bond Trustees as a Reserve, \$313K will be returned into usable accounts.
- FCWSD must provide a fiscal year audit report to the trustee within 270 days of the end of the fiscal year and an annual budget to the trustee within 30 days after the BOD's approval.
- No pre-payment is available on New Bond 2021 A or B for the first 10 years.

- Bond refunding requires board determination that the new bond is in the best interest of the district. An election is not required.
- The average interest rate, 1.83%, and true interest cost, 2.28%, are lower than the current rates.

**Motion:** Member Michelle Piazza moved to pass the first reading of Ordinance 2021-13; member Bob Thelen seconded. No public comment. Motion passed 4-0.

### **Monthly Operations and Maintenance Report**

Phil George offered the report.

- SBR 2 operational and processing all the District's wastewater flow including Elk Grove and Gallatin Gateway flows.
- Elk Grove WWTP is shut down for process equipment upgrades and concrete repairs. The concrete looks great. Liners are being installed to further prolong the life of the concrete.
- Northstar and Commerce lift station meter vault installation is complete. Scaling of the flow on SCADA needs to be checked by MET.
- Installation of IPS additional odor control structure at the WRF is scheduled for early October.

### **Monthly Financial Report**

Amy Ellingston offered the report.

- The audit is submitted and awaiting response, hopefully by the end of October.
- Capacity rate increase goes into effect 10/1. Many agreements have been written in response.
- Employee benefits are under review and new employee policies are being created
- Stip is current
- Over on vehicle expenses due to new vehicle
- Over on water income due to peak irrigation season
- Under in water operating expenses
- Slightly under on sewer income
- Under on sewer system operating expenses

### **General Manager Topics**

Phil George provided the report.

- GM is seeking answers from the fire districts regarding Out of District Fires to determine new rates.
- In Elk Grove Maintenance, the current GM has different priorities than the past GM, joined the board when Elk Grove annexed, and wasn't party to discussions leading up to annexation.
- In Capital Projects, the Elk Grove Booster and WWTP have been submitted to DEQ for Review.
- WRF SBR 3&4 will be submitted to DEQ 9/2021.
- GM will meet on 9/22/21 to review the contract approach for the SCADA upgrade.
- Around 700 EDU's have been sold for SBF 3&4 in advance of October's price increase. There are about 1,800 EDU's remaining on SBF 3&4.
- Small storage garages with minimal heating mechanisms are needed to protect assets at the Elk Grove WWPT and WRF.

### **Board Member Topics**

A documented list of what has been completed at Elk Grove was requested. The GM will compile one.

### **Public Comment:**

No public comment.

**Closed Meeting**

A closed meeting occurred due to MCA section 2-3-203. Attorney Susan Swimley recorded minutes.

**Motion:** Member Bob Early moved to initiate the closed meeting. Member Brad Thelen seconded the motion. No public comment. Motion passed 4-0.

**Next Meeting Date:** Tuesday, October 19, 2021

**Adjourn**

There being no further business before the Board, the Four Corners Water & Sewer District meeting of September 21, 2021 adjourned at 7:55 p.m.

Libby Kueneke, Secretary

DRAFT

Ordinance 2021-10

ORDINANCE ACCEPTING THE ANNEXATION PETITION OF BILL & TIDD'S EXCELLENT, LLC FOR ANNEXATION INTO THE FOUR CORNERS WATER & SEWER DISTRICT

WHEREAS, BILL & TIDD'S EXCELLENT, LLC, a Montana limited liability company with address 1019 E. Main Street, Bozeman MT submitted a petition, signed by William "Bill" Langlas purporting to be an authorized manager, for annexation of real property being described as Tract 5 of Dykstra Minor Subdivision No.. 526, being located in the W ½ of Section 24, T1S, R4E, P.M.M. Gallatin County Montana being approximately 26 acres in size ("Property") requested that the Property be annexed into the Four Corners County Water and Sewer District to connect to water and wastewater services; and

WHEREAS, the Property is contiguous to the District boundary; and

WHEREAS, on May 18, 2021 at a duly noticed meeting of the Board of Directors, the Board considered the Petition to annex the Property and determined the Property was contiguous and further determined that the systems have capacity to provide service to the Property; and

WHEREAS, BILL & TIDD'S EXCELLENT, LLC will provide evidence of purchased of water rights to serve the Property need to be provided for 10 EDU (1600 gpd total) and have agree to pay the water and wastewater fee per EDU to the District; and

WHEREAS, the Property will need to provide its own irrigation water.

NOW THEREFORE, be it ordained by the board of directors of the Four Corners County Water and Sewer District Board, by passage of this ordinance, the District does agree to annex the Property, described above, into the District after transfer of water rights & payment of fees water and sewer service for 10 EDUs (1600 gpd total).

Landowners/petitioners acknowledge that should additional structures which utilized water and/or sewer on the Property seek service, the District makes no representation that the District will have sufficient water or sewer capacity to service future structures.

ADOPTED by the Board of Directors of the Four Corners County Water and Sewer District after first reading on September 21, 2021 with a vote of 4 in favor and 0 against and second reading on \_\_\_\_\_, 2021 with a vote of \_\_\_ in favor and \_\_\_ against. This Ordinance shall be in effect 30 days after the date of the second reading.

1<sup>st</sup> Read and approved:  
Dated: September 21, 2021

Four Corners County Water and  
Sewer District

By: Nancy A. Filikka  
Its: Vice President

Attested:

Wibbey Kneeneke  
Secretary

2<sup>nd</sup> Read and approved:  
Dated: \_\_\_\_\_, 20\_\_

Four Corners County Water and  
Sewer District

By: [Signature]  
Its: \_\_\_\_\_

Attested:

\_\_\_\_\_  
Secretary

Ordinance 2021-12

ORDINANCE ACCEPTING THE ANNEXATION PETITION OF WTGC, LLC FOR ANNEXATION INTO THE FOUR CORNERS WATER & SEWER DISTRICT

WHEREAS, WTGC, LLC, a Montana limited liability company with address of 19 Intrepid Dr. Bozeman MT submitted a petition, signed by Mark Easton, purporting to be an authorized manager, for annexation of Tract 3 of Dykstra Minor Subdivision No 526 located in Section 24, T1S, R4E, P.M.M. Gallatin County Montana being approximately 40 acres in size ("Property") requested that the Property be annexed into the Four Corners County Water and Sewer District to connect to water and wastewater services; and

WHEREAS, the Property is contiguous to the District boundary; and

WHEREAS, on September 21, 2021 at a duly noticed meeting of the Board of Directors, the Board considered the Petition to annex the Property and determined the Property was contiguous and further determined that the systems have capacity to provide service to the Property; and

WHEREAS, WTGC, LLC, will provide evidence of purchased of water rights to serve the Property need to be provided for 50 EDU (8,000 gpd total) and have agree to pay the water and wastewater fee per EDU to the District; and

WHEREAS, the Property will need to provide its own irrigation water.

NOW THEREFORE, be it ordained by the board of directors of the Four Corners County Water and Sewer District Board, by passage of this ordinance, the District does agree to annex the Property, described above, into the District after transfer of water rights & payment of fees water and sewer service for 50 EDUs (8,000 gpd total).

Landowners/petitioners acknowledge that should additional structures which utilized water and/or sewer on the Property seek service, the District makes no representation that the District will have sufficient water or sewer capacity to service future structures.

ADOPTED by the Board of Directors of the Four Corners County Water and Sewer District after first reading on September 21, 2021 with a vote of 4 in favor and 0 against and second reading on \_\_\_\_\_, 2021 with a vote of \_\_\_ in favor and \_\_\_ against. This Ordinance shall be in effect 30 days after the date of the second reading.



1<sup>st</sup> Read and approved:  
Dated: September 21, 2021

Four Corners County Water and  
Sewer District

By: Nancy A. Filippone  
Its: Vice President

Attested:

Mickey Krenke  
Secretary

2<sup>nd</sup> Read and approved:  
Dated: \_\_\_\_\_, 20\_\_

Four Corners County Water and  
Sewer District

By: \_\_\_\_\_  
Its: \_\_\_\_\_

Attested:

\_\_\_\_\_  
Secretary

Ordinance 2021-13

ORDINANCE ACCEPTING THE ANNEXATION PETITION OF LISA LONG & BRANDON D. FLEISHER, 164 SELWAY LN., BOZEMAN MT 59718, FOR ANNEXATION SEWER ONLY

WHEREAS, LISA LONG & BRANDON D. FLEISHER , as owners, submitted a petition for annexation of a parcel of land described Lot 1, Lot 1A O.S. and Road of Tract 1B all of Tract 12 Minor Subdivision #520, located in Tract 12 of Dependent Survey No. 8A, located in the NW ¼ of Section 12, Township 2 South, Range 4 East P.M.M. Gallatin County Montana hereinafter also referred to as “Property” requesting that the Property be annexed into the Four Corners County Water and Sewer District to connect to *sewer service only*; and

WHEREAS, the property is contiguous to the District boundary; and

WHEREAS, on September 21, 2021 at a duly noticed meeting of the Board of Directors, the Board considered the Petition to annex the Property as contiguous property and determined that the systems will have sufficient future capacity to provide service to the Property.

WHEREAS, the LISA LONG & BRANDON D. FLEISHER agrees to pay the sewer capacity fee for 1 Equivalent Dwelling Units (“EDUs”), with an EDU equal to a maximum daily flow of 160 gallons a day and average daily flow of 160 gallons per day per EDU. The District shall not provide sewer service in excess of the capacity provided herein. The District shall not provide water and shall not provide water service for any purposes.

NOW THEREFORE, the Board by passage of this ordinance does agree to annex the Property described as Lot 1, Lot 1A O.S. and Road of Tract 1B all of Tract 12 Minor Subdivision #520, located in Tract 12 of Dependent Survey No. 8A, located in the NW ¼ of Section 12, Township 2 South, Range 4 East P.M.M. Gallatin County Montana into the District to provide sewer service to the Property not to exceed equal to a maximum daily flow of 160 gallons a day and average daily flow of 160 gallons per day per EDU. All recitals set forth above are incorporated herein as if fully set forth herein.

ADOPTED by the Board of Directors of the Four Corners County Water and Sewer District after first reading on October 19, 2021 with a vote of \_\_\_ in favor and \_\_ against and second reading on \_\_\_\_\_, 2021 with a vote of \_\_\_ in favor and \_\_ against. This Ordinance shall be in effect 30 days after the date of the second reading.

1<sup>st</sup> Read and approved:  
Dated: October 19, 2021

Four Corner’s County Water and Sewer District

Its: \_\_\_\_\_

Attested: \_\_\_\_\_  
Secretary

2<sup>nd</sup> Read and approved:  
Dated: \_\_\_\_\_, 2021

Four Corner’s County Water and Sewer District

Its: \_\_\_\_\_

Attested: \_\_\_\_\_  
Secretary

RESOLUTION 2021-11

A Resolution of the Four Corner County Water and Sewer District to adopt Temporary Employee Housing Benefit.

RECITALS

WHEREAS, the Four Corners County Water and Sewer District (“District”) is a county water and sewer district duly established in 2003;

WHEREAS, the Gallatin Valley and the State of Montana are experiencing unprecedented escalation of housing prices, which commenced during the years 2019/2020 concurrent with the COVID/ Coronavirus pandemic. The more than one-hundred increase in purchase and rental pricing, and the lack of qualified employee candidate pool, the District has determined that it is in the best interest of the District to offer temporary housing benefits in order to sustain the current staffing and assist in the hiring process of qualified candidates.

WHEREAS, the District has determined the temporary housing benefit should be established for each employee and provided to new employees as per the hiring packet offered in the amount of \$250.00 per month.

WHEREAS, the monthly temporary housing benefit amount of \$250 will be reviewed and set yearly by the General Manager and Board President.

WHEREAS, this is a taxable benefit.

WHEREAS, upon annual review, the District may determine, in its sole discretion to cease said temporary benefit when the real estate market stabilizes or adjusts.

NOW THEREFORE, the Four Corners County Water and Sewer District resolves adopt Temporary Employee Housing Benefit effective on January 1, 2022.

This benefit shall be reviewed annually by the General Manager and District Board and included in the budgeting process, as needed.

All recitals set forth above are incorporated herein.

Dated this \_\_ day of October 2021.

---

Cory Klumb, President

ATTESTED:

---

Libby Kueneke, Secretary

RESOLUTION 2021-12

A Resolution of the Four Corner County Water and Sewer District Implement a Sole Source Procurement for Elk Grove WWTP

RECITALS

WHEREAS, the Four Corners County Water and Sewer District (“District”) is a county water and sewer district duly established in 2003; and

WHEREAS, the District regularly procures supplies and services as part of managing, operating, and maintaining the water and sewer facilities; and

WHEREAS, the District is obliged to follow a competitive bidding process for goods and services as required by Section 7-5-2301, MCA; and

WHEREAS, the District adopted Resolution 2019-12; A resolution of the Four Corners County Water and Sewer District to Adopt Rules Governing Sole Source Procurement, which set forth the District’s Policy for Sole Source Procurement; and

WHEREAS, in certain situations, there is only one suitable source for a good or service which necessitates the use of Resolution 2019-12 to procure goods or services from a sole source; and

WHEREAS, Engineering has determined the best replacement for the Elk Grove WWTP Rotor System is a system with improved technology available from a single source;

NOW THEREFORE, the Four Corners County Water and Sewer District resolves to utilize its adopted policy set forth in Resolution 2019-12 to sole source procurement the New Rotor System for Elk Grove WWTP.

Dated this \_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Cory Klumb, President

ATTESTED:

\_\_\_\_\_  
Libby Kueneke, Secretary

---

## ELK GROVE WWTP IMPROVEMENTS/REHAB PROJECT

### JUSTIFICATION FOR SOLE-SOURCING THE OXIDATION DITCH AERATION EQUIPMENT

#### Four Corners County Water and Sewer District

---

#### Equipment Needs

The Elk Grove wastewater treatment plant (WWTP) is owned and operated by the Four Corners County Water and Sewer District ("District"). The WWTP is in need of replacement of the existing aeration rotors in the oxidation ditch due to age and performance limitations. The existing rotors do not offer the ability to separate aeration from mixing, which diminishes the ability to control the treatment process, particularly for nutrient removal. Therefore, the replacement aeration equipment must be capable of separate mixing and aeration control.

#### Alternatives

Two aeration methods were explored, fine bubble aeration with separate mixers, and blower-assisted surface aerators. ***Fine-bubble aeration*** offers precise aeration control and the use of separate mixers allows for continued mixing while aeration is turned off. However, fine-bubble diffusers are installed on the bottom of the oxidation ditch and require dewatering for service and maintenance every five to ten years. While the wastewater treatment systems available to the District currently have excess capacity that allows for taking the Elk Grove WWTP out of service for major maintenance, rapid development in the area is forecasted to use this excess capacity in the near future. Therefore, equipment that requires the entire plant to be taken out of service is not acceptable for the Elk Grove WWTP.

***Blower-assisted surface mixer/aerators*** are installed above the water and extend a shaft and propeller into the flow. The discharge from a separate blower is connected to a hollow shaft and introduces air to the water while the propeller is running. The blower can be cycled on and off as needed to maintain process control, while the surface mixer continues to operate and provide mixing. The entire assembly can be serviced from the oxidation ditch walkway or taken to a shop for major maintenance. No dewatering of the oxidation ditch is required to maintain this equipment.

#### Manufacturers

Two manufacturers offer blower-assisted surface mixer/aerators here in the U.S.: Aeration Industries International and Fluence.

The ***Aeration Industries equipment*** was developed with nutrient removal in mind, which requires the ability to turn air on and off, effectively requiring a separate mixer and air supply. When the blower turns



off, the slow speed Triton mixers do not draw in air and no oxygen is imparted to the water. When the blower turns on, the air stream interacts with the propeller so that air bubbles are sheared into very small or fine bubbles. Aeration Industry's units produce true fine bubbles with an associated good oxygen transfer efficiency (OTE). The relatively low propeller speed helps with equipment longevity. Aeration Industries has about 20 years of experience applying their patented Triton aerator in oxidation ditches and about 40 years of experience working with oxidation ditch aeration systems in general. Aeration Industries offers a complete control system with instruments and control panels, tailored to provide high operator flexibility in controlling the system for nutrient removal. The control panels are built and programmed by Aeration Industries to ensure sole-source responsibility for the entire process.

The **Fluence** unit is a high-speed aspirating mixer fitted with a blower to increase air delivery. Aspirating mixers use high propeller speed draw air through a hollow shaft when the propeller is operating. While the blower discharge tube covers the air intake, an unquantified amount of air is allowed to leak into the system. Aspirating units must operate at high speeds to facilitate aspiration; however, high speeds tend to be associated with shorter bearing and motor life. Fluence offers control panels and instruments for nutrient removal processes; however, they use third party suppliers for the panels and programming.

Equipment from both manufacturers was evaluated for the parameters listed in Table 1. Attributes that were preferred by District staff are indicated in bold.

**Table 1: Aerator/Mixer Attributes**

Parameter	Aeration Industries	Fluence
Propeller speed	<b>900 rpm</b>	1,800 rpm
Verification of true "fine-bubble" creation	<b>Yes</b>	Not verified
Leak tight seal when blower is turned off	<b>Yes</b>	No
Bearing lubrication	Water	Grease
Equipment design specifically for nutrient removal	<b>Yes</b>	No
Control panels and programming provided in-house	<b>Yes</b>	No

The Aeration Industries equipment has more of the preferred attributes and was selected for installation at the Elk Grove WWTP. A letter from Aeration Industries describing how they set themselves apart from Fluence is attached to this justification.

### Pricing

The District requested pricing for similar projects from Aeration Industries to ensure that the price quoted for the Elk Grove WWTP is fair. While the current market is creating high price volatility and materials of all types have significantly increased in cost, comparing prices for similar projects still provides a measure of control.

RESOLUTION 2021-13

A Resolution of the Four Corner County Water and Sewer District to Purchase Land.

RECITALS

WHEREAS, the Four Corners County Water and Sewer District (“District”) is a county water and sewer district duly established in 2003; and

WHEREAS, the District formed a Financial Committee, which meets regularly to consider and make recommendations for the best practices of the financial welfare of the District;

WHEREAS, the Financial Committee recommended the District locate and secure real property which is at the highest possible elevation to located a water facility. The higher elevation allows water pressure to be provided by gravity; and

WHEREAS, the District anticipates the acquisition of such a site would be a future enhancement to the District’s North Star Water System; and

WHEREAS, the District has located a parcel of land which would serve the purposes set forth herein.

NOW THEREFORE, the Four Corners County Water and Sewer District resolves to adopt a land purchase agreement for future enhancement to the District’s North Star Water System and authorizes the District to place under an approximately 1 acres tract of land located on Love Lane:, Parcel 3 S06, T02 S, R05 E C.O.S 2939; and

This purchase shall be funded by water capacity funds.

Dated this \_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Cory Klumb, President

ATTESTED:

\_\_\_\_\_  
Libby Kueneke, Secretary

**TO:** Phil George, District Manager  
**FROM:** Martin E. Gagnon, P.E.  
**RE:** FCCWSD Potential Purchase of Parcel 3 of COS 2939  
**DATE:** October 14, 2021

---

**FOUR CORNERS COUNTY WATER AND SEWER DISTRICT  
POTENTIAL PURCHASE OF PARCEL 3 OF COS 2939**

The Four Corners County Water and Sewer District provides potable water to properties located within the District boundary in the area around Four Corners. The District's water system is currently divided into two separate systems which include the Elk Grove water system and the Northstar/Galactic Park water system. The Elk Grove system is stand alone and currently only serves the Elk Grove subdivision. The Northstar/Galactic Park water system serves the remainder of the District properties and currently comprises six groundwater wells, two water storage reservoirs and three booster stations. As the District grows, demands on the existing Northstar/Galactic Park water system continue to increase.

Due to the continued growth and increasing demand for potable water in the Four Corners area, the District is continually looking for ways to efficiently provide water service in the area. As a result of this effort, the District has identified a parcel of land on Love Lane that provides a strategic location for a new water storage facility. The parcel is known as Parcel 3 of COS 2939 and is located on the west side of Love lane approximately halfway between Durston Road and Baxter Lane.

This parcel's elevation relative to the District's expansion area to the north and west makes it a desirable location for future location of a water storage facility. Although water will still need to be pumped up to the storage reservoir from the water supply wells located west of Jackrabbit Lane, this water will typically be pumped at a lower flow rate than on the distribution side of the storage facility utilizing smaller pumps and requiring less energy. The distribution side booster station can be downsized due to the relative elevation of the storage facility site to the expected service area to the north and west. In other words, gravity will assist in the distribution side of the system which will allow the use of smaller pumps and require less energy than if the storage facility were located at a lower elevation.

The parcel is also strategically located to serve properties to the north and west of the parcel location which is a likely direction for the District to grow. The parcel is located immediately adjacent to the existing water distribution system which will allow for easy connection to the system. The parcel is one acre in size (132 feet by 330 feet) which should provide adequate room for the proposed water storage facility and associated piping and appurtenances.

Given the strategic location of the parcel and the relative elevation of the parcel with respect to the existing District and its likely expansion area, we recommend the acquisition of Parcel 3 of COS 2939 as a site for a future water storage facility.





## Capital Project Status

- SBR 2
  - In operation
  - Adding bio filter to IPS
  - Adding mixer & de-ionizer to IPS
  
- SBR 3 & 4
  - Submitted to DEQ
- RI Basin 6, 7
  - Received DEQ approval
- Elk Grove Booster
  - Waiting DEQ approval
- Elk Grove WWTP
  - Removed:
    - Rotors
    - Effluent
    - Screen
  - Started Installation on Liner
  - Waiting DEQ approval of new aeration/mixer technology
- SCADA
  - Reached Agreement- MET



## Bond Sale Results

- Total Savings \$531,000
- Reduced from projection
- Cause: FED forecast of higher interest rates going forward



### Operation & Maintenance Report. October 19, 2021

1. Setting of the second IPS Odor Control structure was delayed due to wet weather and is rescheduled for the 28<sup>th</sup> of October.
2. The WRF crew ran a pilot test on a new odor control additive in the Influent Pump Station. Odor loggers were used to collect data from before and during the test, the results showed significant lowering of H<sub>2</sub>S emissions, planning for long term use of the product is underway. Application of the product should begin in 2 weeks.
3. The WRF is experiencing some warranty repair issues, malfunctioning air valves and manual valves on the digesters and a level sensor malfunction. Repairs are underway.

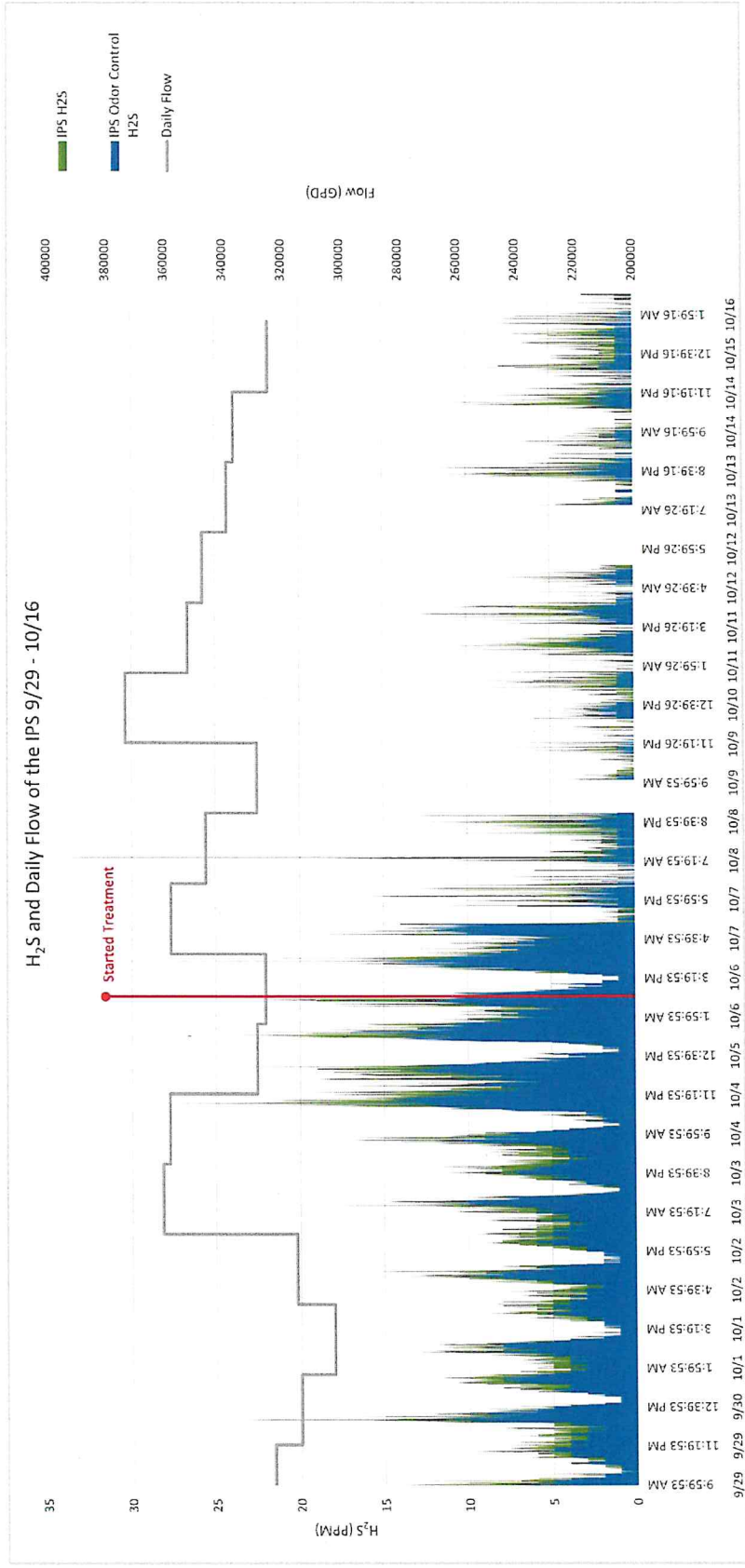


Figure 2: H<sub>2</sub>S concentrations in the IPS wet well and the outlet of the odor control system. Notice the drop in the baseline H<sub>2</sub>S. The gaps at 10/8 and 10/12 are when the odor loggers were removed for data collection.

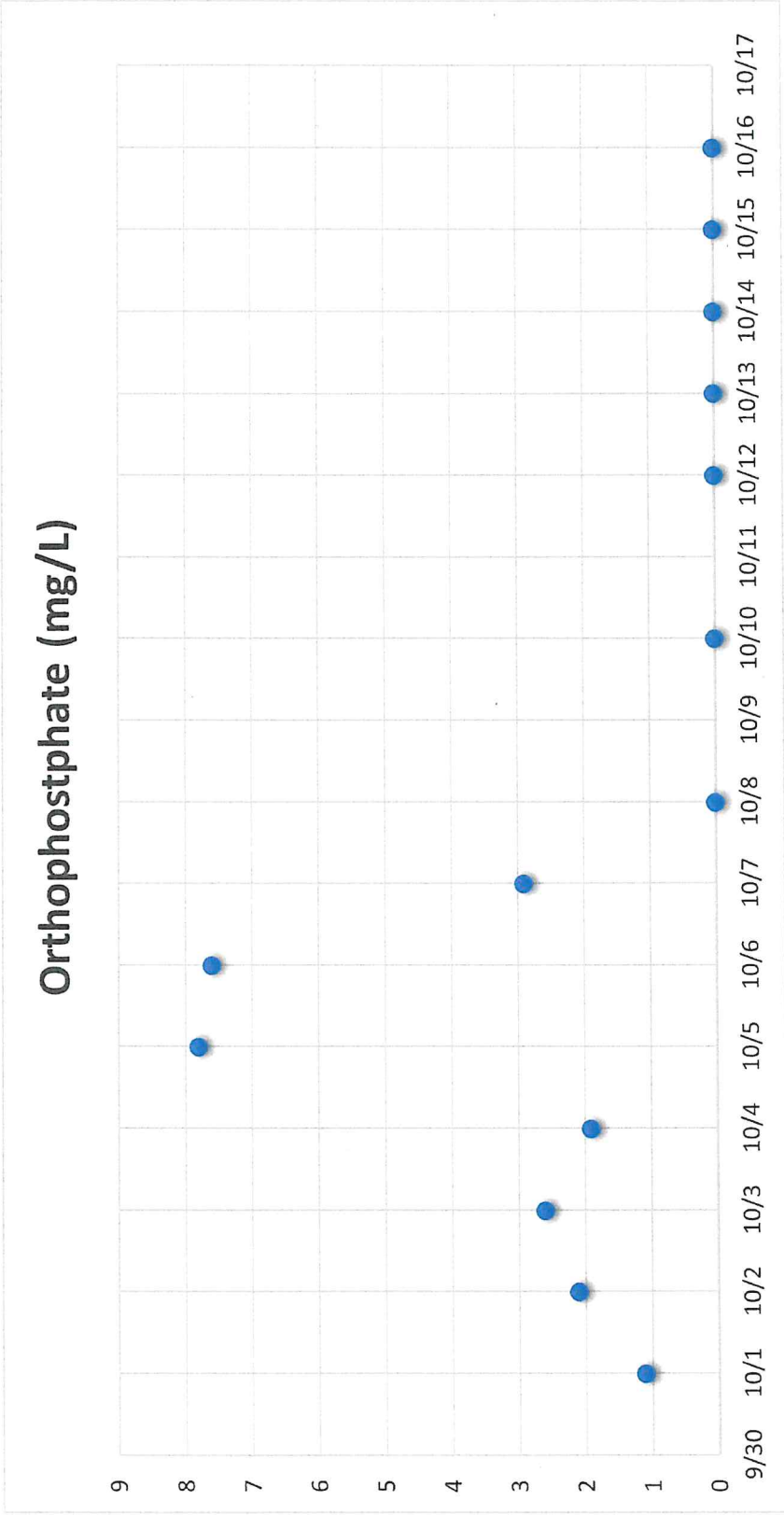


Figure 3: The concentration of orthophosphate in the composite effluent samples. The change in concentration was almost immediate.

# Formula 105 by The Definitive Deodorant Company

## Pilot for the WRF IPS

10/6/21-10/16/21

### Objective

The purpose of this pilot was to apply Formula 105 to the WRF IPS to mitigate the odor problems caused by Hydrogen Sulfide ( $H_2S$ ) gas in the lift station and treatment process. The Definitive Deodorant Company claims their solution removes odors from wastewater without harming the biological and chemical processes necessary for wastewater treatment. It is a hydrocarbon-based formula that has been used by treatment plants and water reclamation facilities for the past 30 years.

### Experiment

To gain a baseline of  $H_2S$  in the IPS and attached odor control system, we placed two odor loggers that record an average  $H_2S$  concentration every minute in the wet well and the outlet of the odor control system (Figure 1). This gives us high resolution data of what's occurring in both locations as well as the effectiveness of the current odor removal system. This baseline recording happened from 9/29/21 to 10/6/21. The dosing of Formula 105 started at 8:30 am on 10/6/21. We used a chemical feed pump to dose the wet well.

### Results

Within one day, the  $H_2S$  concentrations decreased significantly. The average  $H_2S$  concentration in the IPS wet well before the pilot was 7 ppm with spikes over 40 ppm. After ten days of dosing, the average  $H_2S$  concentration decreased to 2 ppm with spikes up to 15 ppm (Figure 2). The observable odor around the plant during this time was noticeably less than the weeks previous. Another unintended result from the dosing was a measurable decrease in orthophosphate ( $PO_4^{3-}$ ) in the WRF's effluent (Figure 3).

### Conclusion

The application of Formula 105 for ten days has shown a measurable decrease in the odor causing gas  $H_2S$ , and a decrease in  $PO_4^{3-}$  in treated effluent. At a dose rate of less than a gallon per day, we believe Formula 105 is a cost-effective, sustainable solution that not only decreases the concentration of odors but improves the quality of treated effluent.



**October 19, 2021**

**General Administration Actives and Issues:**

1. Audit- Field Day 10/21
2. Capacity Rates Increase 10.1.2021- went into effect
3. Creating New Employee Policy – on going

**Current Stip**

**Bond \$780,346\*\***

**Water \$ 2,896,428**

**Sewer \$ 6,536,178**

**\*\*Bond Reserve: The \$780,346 will be reduced to \$270,000. The difference will be moved to the Water and Sewer Reserves. Sewer \$331,724 & Water \$178,622.**



**Month End YTD Budget vs. Actual**

**September 2021**

**Shared Expenses**

	<u>September 2021</u>	<u>Budget</u>
<b>Income/Expense</b>		
<b>Expense</b>		
<b>500-Shared General Admin Expenses</b>		
<b>510- Board Members</b>	<b>468</b>	<b>3,000</b>
<b>520- Personnel Expenses</b>	<b>203,230</b>	<b>212,499</b>
<b>530- Office Expenses</b>	<b>12,278</b>	<b>15,000</b>
<b>540- Vehicle Expenses</b>	<b>26,035</b>	<b>15,000</b>
<b>550- Professional Services (Shared)</b>	<b>56,853</b>	<b>66,999</b>
<b>560- Other Expenses (Shared)</b>	<b>21,139</b>	<b>20,000</b>
<b>Total</b>	<b>320,003</b>	<b>332,498</b>





**Month End YTD Budget vs. Actual**

**September 2021**

**Water**

	<u>September 2021</u>	<u>Budget</u>
<b>Income/Expense</b>		
<b>Income</b>		
<b>400- Operating Revenues</b>		
<b>410- Water Revenues</b>	<b>612,536</b>	<b>437,499</b>
<b>Expense</b>		
<b>600- Water O&amp;M Expenses</b>		
<b>610- System Operating Exp (Water)</b>	<b>35,486</b>	<b>45,000</b>
<b>620- Repairs/ Maintenance Expenses</b>	<b>6,744</b>	<b>17,499</b>
<b>630- Professional Services (Water)</b>	<b>0</b>	<b>1,248</b>
<b>Total 600- Water O&amp;M Expenses</b>	<b>42,230</b>	<b>63,747</b>
<b>Half of Shared Expenses</b>	<b>160,001</b>	<b>166,249</b>
<b>Total Expenses</b>	<b>202,231</b>	<b>229,996</b>



**Month End YTD Budget vs. Actual**

**September 2021**

**Sewer**

	<u>September 2021</u>	<u>Budget</u>
<b>Income/Expense</b>		
<b>Income</b>		
<b>400- Operating Revenues</b>		
<b>420- Sewer Revenues</b>	<b>424,800</b>	<b>431,250</b>
<b>Expense</b>		
<b>700- Sewer O&amp;M Expenses</b>		
<b>710- System Operating Exp (Sewer)</b>	<b>60,724</b>	<b>81,249</b>
<b>720- Repairs/ Maintenance Expenses</b>	<b>23,970</b>	<b>23,750</b>
<b>730- Professional Services (Sewer)</b>	<b>111</b>	<b>1,248</b>
<b>Total 700- Sewer O&amp;M Expenses</b>	<b>84,805</b>	<b>106,247</b>
<b>Half of Shared Expenses</b>	<b>160,001</b>	<b>166,249</b>
<b>Total Expenses</b>	<b>244,806</b>	<b>272,496</b>



October 12, 2021

## District End Game

### Treatment Capacity

WRF		
- SBR 1&2		400,000 k g/d
- SBR 3&4		400,000 k g/d Planned 2023
Elk Grove		
- WWTP		300,000 k g/d
- (Future)		100,000 k g/d
Total		1,200,000 k g/d

### Discharge Capacity

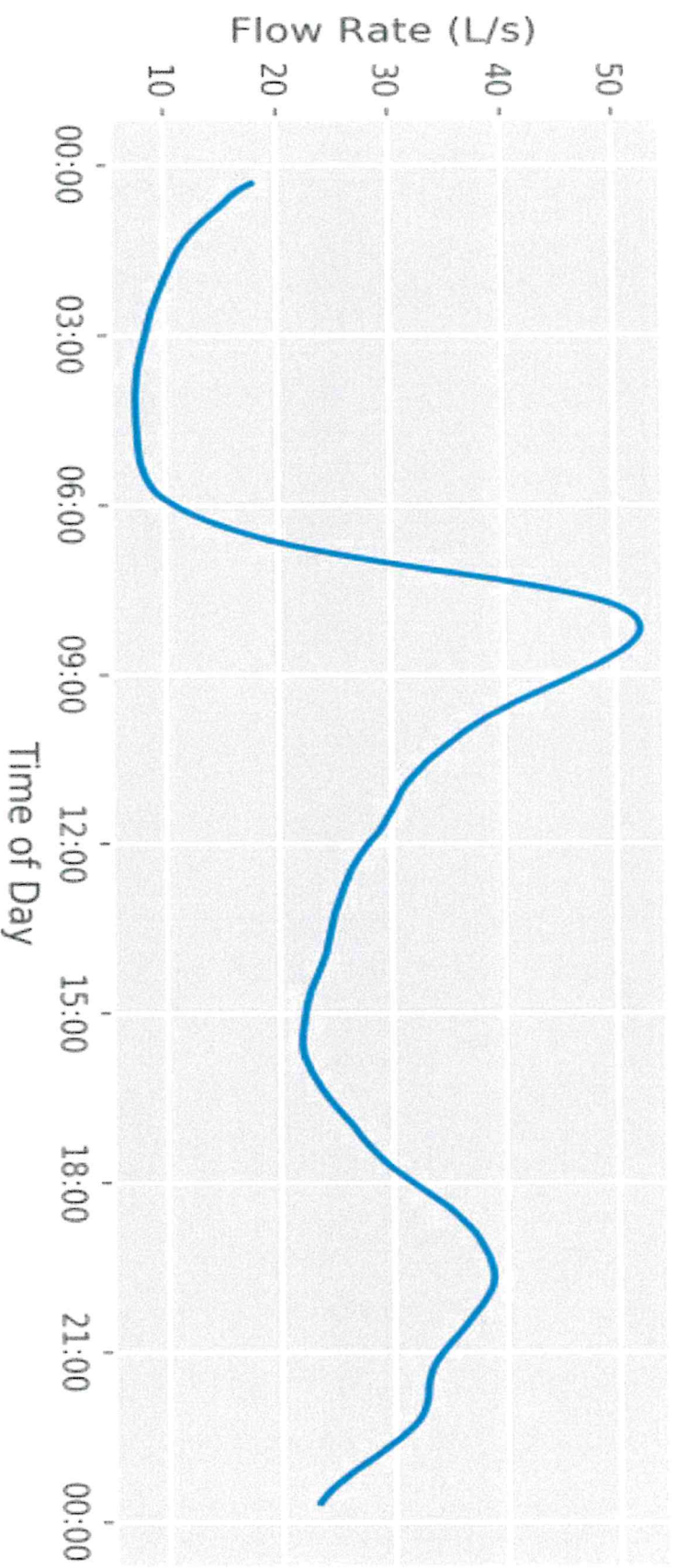
Approved		
- Outfall 003		1.4 m g/d
- EG Outfall		.1 m g/d
Total		1.5 mg/d
Constructed		
- Outfall 003		820 mg/d
- EG Outfall		.100 mg/d
Sub Total		.920
- (Future Basin 6&7)		.460 mg/d
Total		1.380 mg/d

Total Discharge Capacity exceeds Treatment Capacity

- 1.380 mg/d vs. 1,200 mg/d

Growth of Discharge Capacity Discussion

- Requires area around WRF
- Expensive Post Treatment of processed water



**Figure 1.** A typical daily inflow curve depicting bi-modal behaviour.

