MINUTES REGULAR BOARD MEETING

DECLARATION OF A QUORUM

President James Bissell called the meeting to order at 9:04 A.M. Directors present via Zoom were Treasurer Ken Brown, Director John Boyle, and Director Diane Lundquist. Absent with notice was Vice President Gunnar Thordarson. Staff present were Jeff Gouveia, General Manager and Judi Silber, Office Manager. No public present.

BOARD MEETING

Public comments on agenda items will be limited to 3 minutes or otherwise at the discretion of the Board Chair.

PUBLIC FORUM

Any member of the public may address and ask questions of the Board relating to any matter within the Board's jurisdiction provided the matter is not on the agenda or pending before the Board.

BOARD BUSINESS

1. **Public Hearing** – Proposed Delinquent Sewer Service Fees to Be Added to 2021-22 Alpine County Tax Rolls - Discussion and Possible Action Item

   The public hearing was opened at 9:04 A.M. and closed at 9:10 A.M.
   There was no public present.

   Motion Bissell Second Boyle to send account #CS006 - Maminski to the FY21-22 Alpine County Tax Roll for delinquent balance of $7,853.26m, of which $6,471.12 are in arrears.

   Ayes: Bissell, Boyle, Brown, Lundquist
   Noes:
   Absent: Thordarson
   Motion carried

2. **The Board will consider adoption of the June 21, 2021 Board Meeting minutes**

   Motion Brown Second Bissell to accept the June 21, 2021 Minutes as corrected.

   Ayes: Bissell, Boyle, Brown, Lundquist
   Noes:
   Absent: Thordarson
   Motion carried

3. **NPDES Order R5-2016-0045-02 Renewal -** Discussion and Possible Action Item

Motion Bissell Second Boyle to authorize GM to spend up to an additional $12K with Stantec Consulting toward renewal of the District's NPDES permit.

Ayes: Bissell, Boyle, Brown, Lindquist
Noes:
Absent: Gunnar Thordarson
Motion carried.

An Ad Hoc committee consisting of Director's Bissell and Lundquist was formed and authorization was given to the committee to further authorize up to an additional $10K toward NPDES permit renewal as necessary.

4. **FY 21 - 22 Final Budget Proposal –** Discussion and Possible Action Item

The Board discussed projected declining net income and net cash flow in future fiscal years and the potential need for a rate increase if the trend proves true. President Bissell suggested that the District discuss with the District engineer the preparation of rate study to be available as soon as January 2022.

Motion Brown Second Lundquist to accept the FY21-22 Final Budget Proposal.

Ayes: Bissell, Boyle, Brown, Lundquist
Noes:
Absent: Thordarson
Motion Carried

5. **Manager's Report –** General Manager

See attachment.

6. **Financial Report –** General Manager

6.1 P&L and Balance Sheet Reports - Discussion and Possible Action Item
For review only. No action.

6.2 Accounts Payable Report - Discussion and Possible Action Item
For review only. No action.

6.3 A/R & Aging Reports – Discussion

The accounts receivable balance on June 30th, 2021 was $-29,047.81.
The accounts receivable balance on June 30th, 2020 was $35,104.58.

There are very few delinquent customers now. Most of the delinquent accounts houses have been sold. Most new customers have signed up for auto payment. Some customers continue to pay for the entire year at once.

7. **Board Member Reports**

ACTION: Director Boyle asked that a discussion on cybersecutiry and ransomware be included in the next meeting.

President Bissell adjourned the meeting at 11:42 A.M.

AGENDA ITEM

DATE: AUGUST 2, 2021

TO: BVWD BOARD OF DIRECTORS

FROM: JEFF GOUVEIA, DISTRICT GENERAL MANAGER

RE: MANAGER'S REPORT

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1. Water Balance - Update
    a. Influent Flows & Effluent Transfers

       The Influent Flows (MG) as of July 1-18, 2021 is 1.080 MG

       July 1-18, 2021 .840 MG Transferred to storage.

    b. Effluent in Storage, Current Storage Capacity & Land / Surface Disposal Update

       Current Storage Volume is 7067.7 = 6.70 MG = 8.7% (7/29/2021).

       Land application annual total to date is 17.8 MG.

       <700 MG left to dispose of. Staff seek to empty the reservoir by the end of August to perform repairs and maintenance to the dam valve. Staff started earlier this year and there was significantly less water to dispose of. Land disposal has been slowed by the rains.

2. Permit Compliance & Monitoring & Reporting Programs (MRPs) - Update
    a. WDR MRP - Land Discharge Permit – Compliance & Reporting Update
        i. Reporting Status Matrix – No Certified Violations, All Reporting Submitted On-Time

           June 2021 WDR MRP submitted on 07/20/2021.
    b. NPDES MRP – Surface Water Discharge Permit – Compliance & Reporting Update
        i. Reporting Status Matrix – No Certified Violations, All Reporting Submitted On-Time

           June 2021 WDR MRP submitted on 07/20/2021.
3. Other
    a. PGE-SGIP-2020-3656 – WWTF Powerpack Project – Update

       John Watts, Sr. is the contractor on this project. He is lining up subs for the project and fine tuning the numbers. The thickness of the slab to handle the weight of the batteries and the snow load will take two weeks to setup. Mr. Watt's will set the powerpacks in place before the roof is installed. Staff is removing several trees at the project site. The powerpacks are still in a warehouse in Nevada and will be delivered once the pad has cured.

    b. Cal OES Community Power Resiliency Allocation – Update

       A progress report on the expenditures of the funds in due on November 30, 2021. This report shall identify how the funds have been spent, including identifying each project, local entity that undertook the project, the amount of funding provided to the project, and a description of each project. The performance period (when funds must be expended) is July 1, 2020 to March 31, 2022. New propane generators and powerwalls will not available and installed until next Spring.

The radio communications systems may be installed October of this year.

c. District Standard Design Specifications – Update

GM Gouveia indicated that the 2010 design standards were never fully completed, are missing specifications and details need to be finalized. GM is working with the District Engineer on this update.

d. BVWD Roster – 2021 Expiration of Terms of Office (Bissell, Boyle, Lundquist)

Directors Bissell, Boyle and Lundquist terms expire this December. All three directors have agreed to serve another term. Office Manager Silber will provide them with election packets as soon as they are received from the Alpine County Clerk

AGENDA ITEM

DATE: OCTOBER 18, 2021

TO: BVWD BOARD OF DIRECTORS

FROM: JEFF GOUVEIA, DISTRICT GENERAL MANAGER

RE: RATE STUDY PROPOSALS

BACKGROUND & DISCUSSION:

At its August 2, 2021 meeting, the Board of Trustees directed staff to solicit rate study proposals to evaluate the costs and options for a service fee rate increase for both residential and commercial customers. This exercise to seek rate study proposals was the result of the FY20-21 fiscal year budget process. The final budget proposal presented to the Board by the General Manager projected declining net income and net cash flow in near term future fiscal cycles providing the impetus to initiate an analysis of the District's potential to increase service fees.

Therefore, on behalf of the District, the General Manager solicited proposals from six (6) reputable consulting firms either referred by the District Engineer or selected by staff which has completed rate study analyses in the region in the recent past.

Consultants contacted and solicited for proposals included:

- Lechowicz & Tseng Municipal Consultants – Alameda, CA – Tel. 510.545-3182
- Hansford Economic Consulting (HEC) – Truckee, CA – Tel. 530.412-3676
- Bartle Wells Associates – Berkeley, CA – Tel. 510.735-8173
- Hildebrand Consulting – Berkeley, CA – Tel. 510.316.0621
- NBS Consulting – Temecula, CA – Tel. 530.297.5856
- HFH Consultants – Walnut Creek, CA – Tel. 925.977.6953

The Scope of Work requested of the six (6) engineering firms consisted of:

- Determine Annual Revenue Requirements
- Review Reserve Fund Targets
- Evaluate Debt Service Coverage
- Review Capital Improvement Plan (CIP) and prepare a financing plan
- Confirm current rate structures are appropriate and consider rate alternatives
- Develop Cash Flow Projections & Utility Rate Design
- Provide a 5-year schedule of rate adjustments
- Provide Public Outreach and Ensure Compliance with the rate adoption process required by Prop 218

Proposals received are as follows:

- Lechowicz & Tseng Municipal Consultants (L&T) – $19,610
- Hansford Economic Consulting (HEC) – $26,200
- Bartle Wells Associates – $12,870
- Hildebrand Consulting – $29,670
- NBS Consulting – $10,000

HFH Consultants ultimately declined to submit a proposal after concluding that with their projected workload they would not have the capacity to handle our project if they were selected. The Bartle Wells proposal has been provided on behalf of the Specialized Utility Services Program (SUSP) administered under Cal Rural Water and is intended to provide a discount available to small rural public utilities. It is notable that District Legal Counsel Dan Schroeder has indicated that Bartle Wells handled rate increases for several of his clients with favorable outcomes.

HIGHLIGHTS AND VARIATIONS OF NOTE BETWEEN PROPOSALS:

Lechowicz & Tseng Municipal Consultants:

- Focuses on rate and fee studies for public agencies serving populations of 30,000 or fewer
- Registered with the Municipal Securities Rulemaking Board (MSRB) and the Securities Exchange Commission (SEC)
- Conducts detailed reviews of debt obligations and debt capacity
- Provides an analysis of the District's outstanding loan and will make recommendations for refinancing or early pay-off
- Will confirm the underlying flow and pollutant loading assumptions for both residential and commercial groups to ensure that the commercial minimum fee is proportional to the service received and the basis for the commercial minimum fee
- Will evaluate the fixed and variable costs recovered for both residential and commercial customers and make adjustments as appropriate
- Will provide several rate scenarios depicting how various factors (debt, inflation, changes in flow, etc.) impact customer charges including 1) a "barebones" scenario including only inflationary cost increases, 2) a highly funded scenario with funding for all capital projects and reserves, and 3) a moderate scenario that funds high priority projects and phases-in reserve funding
- Will review various financing options to fund capital needs, including pay-as-you-go/cash funding and other debt financing alternatives, such as State loans/grants, bank loans, and certificates of participation/bonds
- Will incorporate "rate sensitivity analysis" to determine affordability
- Intends to provide draft results in February and new rates going into effect July 2022 (Tentative)

Hansford Economic Consulting:

- Methodology focuses on all parties paying their fair share of system costs
- Provides a financing plan for timely completion of planned capital improvements
- Proposed rate schedule will be designed to achieve reasonableness, equity among customer groups, and compatibility with BVWD's billing software and will be both understandable and easy to implement
- Will craft a multi-year financial model giving the ability to test various key assumptions, such as operating reserve levels, different capital financing scenarios, and rate structures
- Will consider pay-as-you-go funding versus debt financing for capital facilities
- Model will evaluate the impact of funding the CIP by priority and cash/debt funding
- Projected revenue requirement may also include other non-operating cost considerations, such as an operating reserve, rate stabilization fund, or additional funds to meet debt service coverage requirements
- The rate study will consider up to two alternative rate structures as may be determined through the customer database and profiling analysis, as well as BVWD input
- Optional Regional Rate Comparison subtask comparing the calculated rates with those of other regional or good comparison wastewater providers ($890)
- Will summarize the findings of the report in a PowerPoint that will used at public meetings to explain the calculated rate changes
- Former Senior Economist with ECO:LOGIC Engineering

Bartle Wells Associates:

- CRWA established the SUSP program to provide services in contract water and wastewater operations, contract utility management and rate studies
- Prop 218 support available as well at an additional cost of $1,400
- District Legal Counsel Dan Schroeder has indicated that Bartle Wells handled favorably rate increases for several of his clients

Hildebrand Consulting:

- Offers a "distinctive value proposition: will personally be *directly* engaged in all facets of the project"
- Worked with numerous Central Valley and Sierra Foothill municipalities including Kirkwood PUD, Union PUD (Murphys), City of Sutter Creek, City of Jackson
- Utilizes a financial planning approach which includes an interactive evaluation of the proposed capital spending budgets that allows it to directly evaluate the financial impacts of capital spending decisions on ratepayers
- Provides a clear, concise, comprehensive and transparent administrative record that clearly shows how cost-of-service requirements are being met that will protect the District and its ratepayers
- Provides a full understanding of the court's interpretations of Prop 218 over the last 9 years that have dramatically altered the standards for rate setting
- Utilizes a revenue sufficiency and financial planning tool to update the District's 10 year financial plan
- Will recommend a 5 year schedule of rate adjustments
- Will consider financial plan cost uncertainties such as future regulatory mandates

NBS Consulting:

- Proposes to provide a sewer rate study sufficient to adopt new rates in compliance with California's Proposition 218 requirements
- Study will update the sewer rates assuming use of the existing rate design structure based on fixed charges
- Financial plan will provide a five-year projection of the net revenue requirements that will be recovered through sewer rates
- Deliverables will include a 10-year financial projection model, summary of current and projected net revenue requirements and updated year-end reserve fund levels
- Will prepare rate tables and bill comparisons for residential and commercial customers that illustrate the differences in current vs. proposed bills
- Will provide proposed Prop 218 rate tables and review the District's language included in the Prop 218 notice

RECOMMENDATION:

The proposals received from the five (5) consulting firms which submitted proposals are responsive to the request and appear to provide the requested deliverables in order to assist the District in implementing a service fee rate increase which could be implemented effective July 1, 2022 or later. Each of the firms appears to have similar experience and qualifications to perform rate study analyses and offer licensed and experienced professionals.

ACTION:

1. Discuss next steps in the rate analysis process and whether the District wants to move forward with a rate study and rate increase effective July 1, 2022 or postpone this effort until FY 22-23 or later
2. Provide direction to staff on next steps in selecting a rate study consultant and a timeline for FY21-22 objectives

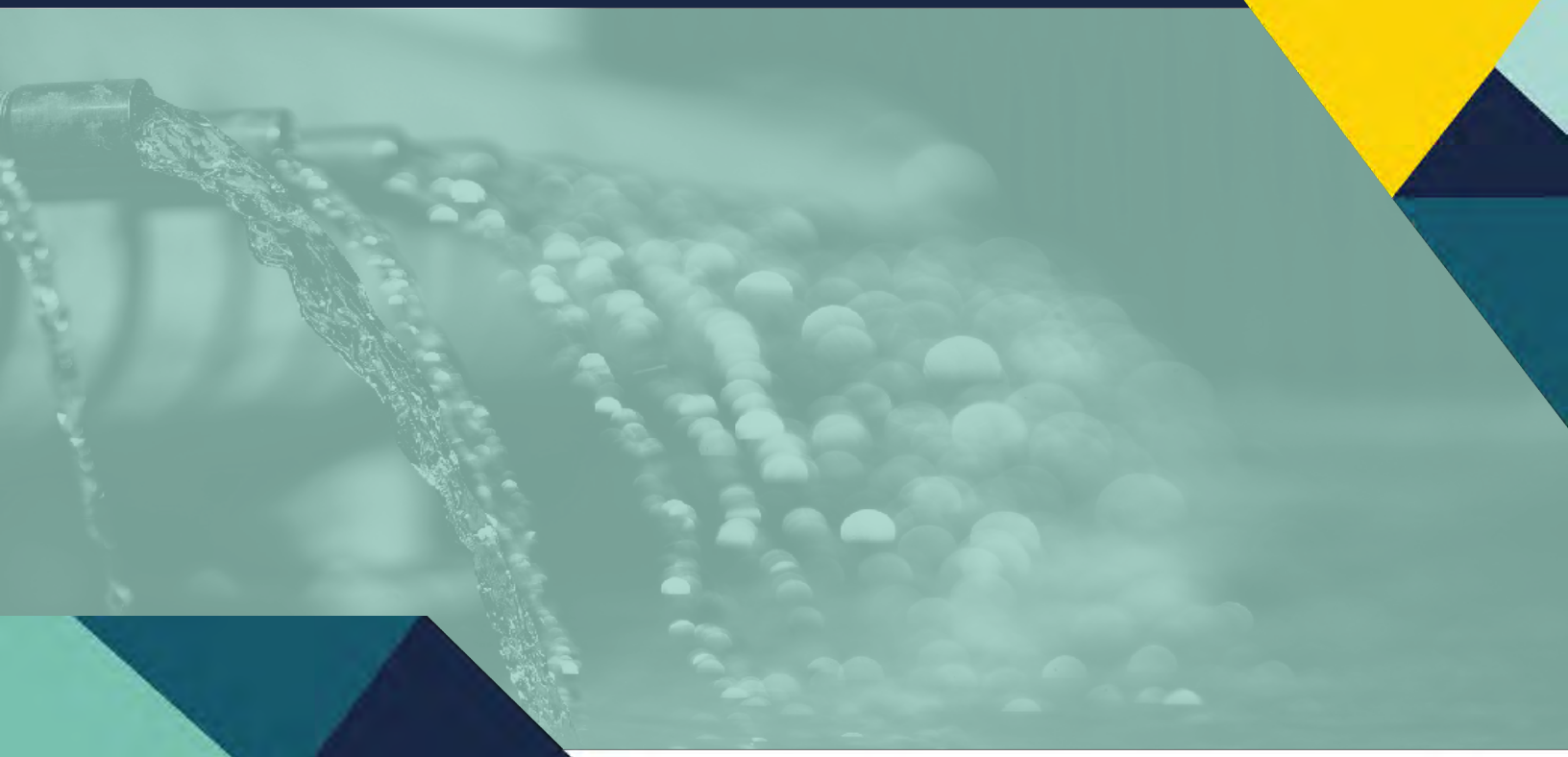
Attachments:
- Lechowicz & Tseng Municipal Consultants (L&T) Proposal
- Hansford Economic Consulting (HEC) Proposal
- Bartle Wells Associates Proposal
- Hildebrand Consulting Proposal
- NBS Consulting Proposal
- BVWD 2014 Prop 218 Notice
- USFS Memo – Vault Toilet Project – Great American Outdoors Act – 6 Toilets to Be Replaced
- F&M Bank Promissory Note – Maturity Date 3-25-2028
    - Prepayment Fee – 2021 = Year 8 = 3 % = $9786 (Balance of $326,213)
    - Prepayment Fee – 2023 = Year 10 = 2 % = $4875 (Balance of $243,724)

September 30, 2021

BEAR VALLEY WATER DISTRICT

Proposal for a Wastewater Rate Study

909 Marina Village Parkway #135 | Alameda, CA 94501 | (510) 545-3182 |
www.LTmuniconsultants.com



LECHOWICZ + TSENG
MUNICIPAL CONSULTANTS

LECHOWICZ + TSENG
MUNICIPAL CONSULTANTS

909 Marina Village Parkway #135
Alameda, CA 94501
(510) 545-3182
LTmuniconsultants.com

September 30, 2021

Bear Valley Water District
PO Box 5027
Bear Valley, CA 95223

Dear Bear Valley Water District (District),

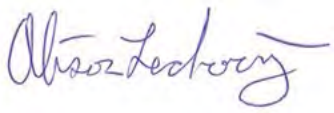
Lechowicz & Tseng Municipal Consultants (L&T) is pleased to submit a proposal for the Bear Valley Water District's Wastewater Rate Study. Lechowicz & Tseng provides financial planning, rate and fee studies, and management consulting to California utilities. We are a small firm that focuses on rate and fee studies for public agencies serving populations of 30,000 or fewer. Recent examples of our work include studies for the Nipomo Community Services District (CSD), Templeton CSD, and the Cities of Anderson, Chowchilla, Kerman, and Tehachapi. Although we are located in the Bay Area, we have extensive experience working in the Central Valley/Northern California region and one of our firm principals, Alison Lechowicz, is a native of Lodi, CA.

As a small public agency, organizational support from your consultant is key as ratepayers have a greater chance of achieving a majority protest. Our team members have completed dozens of studies for small agencies and are well-versed in the Proposition 218 approval process. We strive to develop common sense recommendations that are easy for the public to understand, easy for the District to implement, and clearly demonstrate the need for rate adjustments. L&T's approach to the rate study is as follows:

- **Financial Analysis:** L&T will analyze revenue streams to meet immediate cash flow needs as well as fund reserves for future capital improvements while accounting for any loss of Forest Service revenues. Reserves and capital project funding can be phased-in over time to provide affordability to the residents. As a registered municipal financial advisor, we can conduct detailed reviews of debt obligations and debt capacity. L&T will provide an analysis of the District's outstanding loan and make recommendations for refinancing or early pay-off.
- **Utility Rate Design:** The District's current rate schedule - flat-rate residential billing and a minimum fee plus an excess flow rate for commercial customers - is appropriate. L&T will confirm the underlying flow and pollutant loading assumptions for both customer groups to ensure that the commercial minimum fee is proportional to the service received. If requested, we can review other options such as a capital improvement or debt surcharges.
- **Public Outreach:** We will take the lead in data collection, analysis, and outreach. L&T has extensive experience drafting Proposition 218 notices, educating Board members, and explaining the need for rate adjustments. We can provide multiple rate scenarios depicting how various factors (debt, inflation, changes in flow, etc.) impact customer charges. Our goal is to build trust early in the process, consider alternatives, and gain acceptance for our recommendations.

Our proposal to conduct the rate study is attached. If you have any questions, please contact us.

Sincerely,



Alison Lechowicz, Principal and Authorized Representative
Lechowicz & Tseng Municipal Consultants
alison@LTmuniconsultants.com
510-545-3182

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SECTION 1: FIRM OVERVIEW

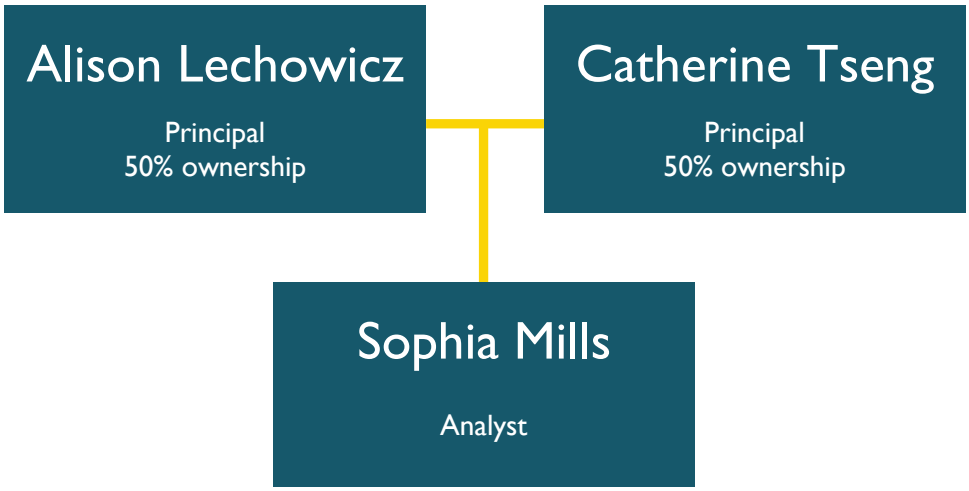
WHO WE ARE

Lechowicz & Tseng Municipal Consultants is a women-owned firm founded by Alison Lechowicz and Catherine Tseng. Our objective is to provide financial consulting and management services to local governments. Alison and Catherine have over 25 years combined experience in municipal consulting and public finance. Alison has experience working for a civil engineering firm and a background in public administration. Catherine has a background in urban planning and worked for the City of Oakland before becoming a consultant.

We have completed over 100 studies compliant with Propositions 218 and 26. Our recent experience includes completing projects for the Cities of Kerman, Chowchilla, San Fernando, and Waterford, the Town of Discovery Bay, and the Templeton Community Services District, among others. L&T is committed to providing professional services with superior value and responsiveness. By using a small team approach, our clients receive greater one-on-one attention and can be assured that all work is conducted by highly qualified professionals. Our clients are provided direct communication with the principal consultants who guide the project through each step.

Nature of firm: Women-owned Bay Area firm serving public agencies exclusively located in California
Services: Utility Rate & Fee Studies, Financial Planning, Capacity Fee Studies, Utility Appraisal, Expert Witness, Public Approval Process
Size of firm: Three staff members
Location of office: Alameda, CA
Management staff: Alison Lechowicz and Catherine Tseng
Registrations: Small Business Enterprise, Women-owned business, Municipal advisory firm registered with the Municipal Securities Rulemaking Board and the Securities and Exchange Commission

ORGANIZATIONAL CHART



SPECIALIZED APPROACH

Financial Planning

Meeting the cost of service and funding the District's infrastructure needs are the fundamental goals of the Wastewater Rate Study. We understand that the District has adopted inflationary rate adjustments in recent years but may need more significant increases due to capital improvement funding, accumulation of reserves, loss of revenues from Covid 19 lockdowns, and disconnection of Forest Service laterals. L&T will provide cash flow analyses showing how each of these factors impact the District's bottom line. As appropriate, we will review a barebones scenario including only inflationary cost increases, a highly funded scenario with funding for all capital projects and reserves, and a moderate scenario that funds high priority projects and phases-in reserve funding. We can revise scenarios as needed to reflect input from staff and the Board.

Registered Municipal Advisor

Lechowicz & Tseng Municipal Consultants is registered with the Municipal Securities Rulemaking Board (MSRB) and the Securities Exchange Commission (SEC). We are able to provide detailed advice regarding the timing and structure of debt and the adequacy of rate revenues to meet debt coverage requirements. As a registered advisor, Principal Alison Lechowicz can provide a detailed comparison of financing options and make recommendations. L&T will review the terms of the District's bank loan (current repayment through 2028) and determine if the loan can and should be paid-off early or refinanced.

Rate Design

Regarding rate design, L&T generally recommends simplicity for smaller utility service areas. If the District is happy with its rate design and customer categories, we can keep them as-is. Otherwise, we propose to review the following items: underlying assumptions for residential and commercial flows and loads, the basis for the commercial minimum fee, and cost recovery of fixed and variable expenses. To comply with Proposition 218, the minimum commercial fee should be proportional in cost to the services received by commercial customers when compared to residential customers. L&T will evaluate the fixed costs and variable/flow related costs recovered in each rate component and make adjustments as appropriate. The District is also facing potential excess capacity due to loss of the Forest Service connections. This could lead to a higher fixed cost burden for remaining customers. We will evaluate the impacts of the loss of Forest Service revenues over the next five years.

Like many communities with volume-based billing, the Bear Valley Water District has experienced a decrease in commercial revenues due to Covid 19 shelter-in-place. To mitigate these losses, the District could assign a higher percentage of cost recovery to the minimum fee (fixed costs). L&T will review these options with the Board.

Public Outreach

L&T has a breadth of experience with controversial rate, fee, and tax increases and public outreach. Outreach is particularly important for smaller public agencies as they have a greater risk of ratepayers garnering a 50% majority protest to deny a rate adjustment. Our final documents will stress the value of the District's services, explain why costs are increasing, and describe cost saving measures. We can draft public notices, newsletters, and web or social media postings as appropriate. L&T is happy to lead public workshops, presentations, and Proposition 218 hearings.

EXPERIENCE WITH SMALL PUBLIC AGENCIES

Nearly all our rate studies over the past four years have been for agencies serving populations of 30,000 or fewer. We understand the administrative burden of the rate study process and will take the lead in Proposition 218 implementation. Provided below is a selection of L&T's recent experience serving agencies of similar size and project scope:

AGENCY	ACCOUNTS OR PARCELS	PROJECT
Nipomo CSD (Blacklake)	560	Blacklake Sewer Rate Study (2018) Blacklake Streetlight Rate Study (2021)
McMullin Area GSA	1,150	Groundwater Fee Study (2018)
City of Rio Dell	1,300	Water and Sewer Rate Study (ongoing)
City of Waterford	2,500	Sewer Rate Study (2019)
Templeton CSD	2,800	Water and Sewer Rate Study (2018)
City of Tehachapi	3,000	Water and Sewer Connection Fee Study (2020) Parks and Civic Connection Fee Study (2021)
City of Kerman	3,800	Water and Sewer Rate Study (2018)
City of Chowchilla	3,900	Utilities Rate Study (2020)
City of Anderson	4,000	Water Rate Study (2021)
City of Kingsburg	4,000	Solid Waste Rate Study (ongoing)
City of San Fernando	5,000	Water and Sewer Rate Study (2019)
Town of Discovery Bay CSD	6,200	Water and Wastewater Rate Study (2020)
Root Creek Water District	6,800	Multiple studies since 2017

CSD – Community Services District; GSA – Groundwater Sustainability Agency

SECTION 2: PROJECT TEAM

Alison Lechowicz will serve as the Principal-in-Charge and main contact person. Catherine Tseng will serve as co-Project Manager and provide peer review. Sophia Mills will serve as financial analyst. No subconsultants are needed for this assignment.

Alison Lechowicz

PRINCIPAL – MAIN CONTACT PERSON

QUALIFICATIONS

14 years consulting experience

Master of Public Administration

Testified as an expert witness at the CA Public Utilities Commission

Series 50 – Municipal Advisor Representative Qualification

Series 54 – Municipal Advisor Principal Qualification

Project Manager

Funding alternatives and cash flow projection

Rate recommendations

Public presentations

Catherine Tseng

PRINCIPAL

QUALIFICATIONS

14 years consulting experience

Master of Urban Planning

Bachelor of Architecture

Co-Project Manager and Peer Review

Methodological review

Review of draft and final reports

Substitute for Ms. Lechowicz as needed

- **Analyst - Sophia Mills**

Alison Lechowicz

alison@
LTmuniconsultants.com

(510) 545-3182

909 Marina Village Parkway #135
Alameda, CA 94501

EXPERIENCE

- 14 years consulting experience: 4 years Co-founder and Principal at L&T Municipal Consultants, 7 years as Principal and Financial Analyst at Bartle Wells Associates, 3 years as Financial Analyst at Carollo Engineers
- Testified as an expert witness at the CA Public Utilities Commission in electric rate cases of Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric
- Municipal Securities Rulemaking Board, Series 50 – Municipal Advisor Representative
  Series 54 – Municipal Advisor Principal

EDUCATION

- **Columbia University**
  Master of Public Administration
- **University of California, Berkeley**
  Bachelor of Science
  Conservation & Resource Studies

REPRESENTATIVE ASSIGNMENTS

City of Kerman: Completed a water and sewer rate study for the City. Updated winter water use estimates for single family residential sewer rates. Phased-out discounts for multifamily sewer customers.

Town of Discovery Bay: Long-serving financial consultant for the Town having conducted multiple water and sewer rate studies and capacity fee studies. Assisted the Town in recovering costs for new wastewater regulatory requirements.

Root Creek Water District (Madera County): Financial plan for the District's groundwater basin and agricultural water service. Water, sewer, and storm drain rates and development fees for municipal service.

Stege Sanitary District (Contra Costa County): Sewer rate and connection fee study. Conducted extensive review of water usage patterns to determine flow rates of customer classes. Proposed a 5-year phase-in for a new multifamily rate.

Templeton CSD (San Luis Obispo County): Completed a water and sewer rate study. Conducted an analysis of the District's four water sources, determined the marginal cost of each source, and assigned each source to a water rate tier. Evaluated the transition of the District from regional wastewater treatment to local treatment.

City of Tehachapi: Water and wastewater connection fee study. The wastewater fee study included localized fees for various sewer trunk lines throughout the City. Conducted a parks and recreation development impact fee study as well as a civic impact fee study based on a 20 year planning horizon.

Provided below is a sampling of Alison Lechowicz's project experience since 2010. Prior to 2010, Ms. Lechowicz worked for a civil engineering firm conducting financial analysis for master plans.

CLIENT	PROJECT	DATE COMPLETED
City of Alameda	Sewer Financial Plan and Rate Study	May 2015
City of Anderson	Water and Sewer Rate Study	February 2021
Town of Apple Valley	Water System Acquisition Feasibility Analysis	July 2011
City of Berkeley	Sanitary Sewer Rate Study	June 2015
City of Carmel-by-the-Sea	Bond Refinancing	October 2010
CA City County Street Light Association	Rate economist and expert witness	March 2010 to present (ongoing)
City of Chowchilla	Water, Sewer, Storm Drain, and Solid Waste Rate Study	June 2020
City of Chula Vista	Wastewater Capacity Fee Study Salt Creek Sewer Basin Impact Fee Study Depreciation Review	May 2014 June 2015 July 2018
City of Clovis	Water User Rates and Fee Study	February 2016
City of Colfax	Sewer Rate Affordability Review	June 2010
City of Colusa	Development Impact Fee Study Water System Valuation	June 2011 September 2014
Contra Costa Water District	Water Rate Study	February 2015
City of Cotati	Water and Sewer Rate Study	February 2013
Town of Discovery Bay	Water and Sewer Rate and Capacity Fee Studies	Multiple studies since 2012
City of Emeryville	Sewer Rate Study	November 2016
City of Hemet	Water and Sewer Rate Studies and System Valuations Water Fund Rental Fee Analysis	July 2015 August 2018
Fresno Irrigation District	Financial Master Plan	Ongoing
Home Gardens Sanitary District	Sewer Rate and Capacity Fee Study	May 2015
Indian Wells Valley Water District	Bond Refinancing	December 2012
Irish Beach Water District	Capital Improvement Assessment	March 2011
City of Kerman	Water and Sewer Rate Study	October 2018
City of Kingsburg	Solid Waste Rate Study	Ongoing
Kings River E. GSA	Groundwater Fee Study	February 2018
City of Lancaster	Streetlight Valuation	June 2014
City of Lindsay	Water Rate Study	June 2015

CLIENT	PROJECT	DATE COMPLETED
McMullin Area GSA	Groundwater Fee Study	June 2018
Napa Berryessa Resort Improvement District	Water and Sewer Assessment	July 2012
Newhall County Water District	Water Rate Litigation Support	November 2012
Nipomo CSD	Blacklake Sewer Rate Study	January 2019
Novato Sanitary District	Capacity Fee Study Sewer Rate Study	March 2016 April 2016
City of Palmdale	Sewer Service Charge Analysis	May 2011
City of Rio Dell	Wastewater Rate Study Water and Sewer Rate Study	May 2014 Ongoing
Root Creek Water District	Water, Sewer, and Storm Drain Rate Study and Financial Plan On-call consulting services	April 2016 Ongoing
San Diego County Water Authority	Cost Allocation Review	May 2011
City of San Fernando	Water and Sewer Rate Study	December 2019
San Joaquin County	Utility Appraisal	November 2018 and September 2021
City of Santa Clarita	Sewer Maintenance Feasibility Study	June 2014
Saticoy Sanitary District	Bank Loan Financing	September 2013
South Tahoe Public Utility District	Sewer Bond Refunding	September 2012
Stege Sanitary District	Multiple sewer rate and connection fee studies	Multiple studies since 2010
Sunnyslope County Water District	Water and Sewer Bond Refinancing	October 2014
Tahoe Truckee Sanitation Agency	Sewer Fee Ordinance Review	May 2010
City of Tehachapi	Water and Sewer Connection Fee Study Parks and Civic Impact Fee Study	February 2020 March 2021
Templeton CSD	Water and Sewer Rates and Capacity Fee Study Parks and Fire Impact Fees	November 2018
Triunfo Sanitation District	Water Infrastructure Financing Automated Meter Financing	February 2011 May 2014
Tulare Lake Drainage District	Project Financing Project Financing	March 2012 January 2013
City of Waterford	Sewer Rate Study	June 2019

Catherine Tseng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(510) 858-9228


909 Marina Village Parkway #135
Alameda, CA 94501

EXPERIENCE

- 4 years Co-founder and Principal at L&T Municipal Consultants
- 10 years prior consulting experience: Vice President at Bartle Wells Associates
- 2 years civil servant: City of Oakland
- Specializes in utility rates, capacity charge, and financing plans for public works projects, and Proposition 218 compliance

EDUCATION

- **Columbia University**
  Master of Urban Planning
- **University of California, Berkeley**
  Bachelor of Arts
  Architecture

REPRESENTATIVE ASSIGNMENTS

City of San Fernando: Water and sewer financial plan and rate study and Proposition 218 printing and mailing. Offered rate options to meet affordability criteria including funding of only high priority projects.

City of Brisbane: Currently conducting a water and sewer rate study. The City last updated rates in 2013 but has not done a comprehensive cost of service analysis since 2001. The 2021 update will also evaluate rates for a new development area that will double the City's service area.

City of Chowchilla: Completed a water, sewer, storm drain, and solid waste rate study. Rates will support the City's recent bond issuances and overcome prior deficit spending for the solid waste enterprise.

Sausalito-Marin City Sanitary District: Wastewater Facilities Financial Plan to fund capital projects and reconcile past expenses. Developed multiple funding strategies for contract negotiations with a partner agency.

City of Menlo Park: Water rate study to fund wholesale water rate increases and drought surcharge implementation. Water capacity charge study.

Provided below is a sampling of Catherine Tseng's project experience since 2006.

CLIENT	PROJECT	DATE COMPLETED
Alameda County Water District	Water Development Fee Study	January 2012
City of Anderson	Water and Sewer Rate Study	February 2021
City of Benicia	Raw Water Rate Study and Update Water Rate and Connection Fee Study and Update Drought Rate Study	August 2013 and Sept 2015 February 2013 September 2014
Big Bear City Community Services District	Water, Sewer, and Solid Waste Rate Study	May 2015
City of Brisbane	Water and Sewer Rate Study	Ongoing
City of Chowchilla	Water, Sewer, Storm Drain, and Solid Waste Rate Study	June 2020
Coastside County Water District	Water Financing Plan Water Rate Study	August 2009 January 2010
Crestline Sanitation District	Wastewater Rate Study	June 2015
City of Davis	Water Rate Study Water Rate Study Update	March 2013 September 2014
El Dorado Irrigation District	Development Impact Fee Study Water Rate Study	October 2008 January 2009
Elk Grove Water District	Water Financial Plan and Rate Study	December 2007
Fairbanks North Star Borough	Bond Refinancing	November 2011 and September 2013
City of Glendale	Water Rate Study	May 2015
Town of Hillsborough	Water and Sewer Rate Study	December 2006
City of Hanford	Water Financing	December 2007
Humboldt Bay Municipal Water District	Water Financial Plan	April 2011
Indian Wells Valley Water District	Water Rate Study Bond Financing Water Rate Cost of Service and Development Impact Fee Study	January 2007 August 2009 January 2012 and 2015
City of Menlo Park	Water Rate Study Recycled Water Analysis	May 2015 October 2015
Mid-Peninsula Water District	Water Rate Study	June 2015

CLIENT	PROJECT	DATE COMPLETED
Montara Water & Sanitary District	Water and Sewer Rate Studies	Multiple studies since 2006
Montecito Water District	Drought Rate Study	February 2015
Novato Sanitary District	Bond Financing	October 2011
Olivehurst Public Utilities District	Water Rate Study and Updates	2007, 2009 and 2014
City of Patterson	Water and Sewer Rate and Capacity Fee Studies	Multiple studies since 2010
Riverdale Public Utilities District	Water and Sewer Rate Study	June 2008
Root Creek Water District	Financial Policy Manual	July 2017
Running Springs Water District	Water, Sewer, Fire and Ambulance Rate Studies	July 2010
City of San Bruno	Water and Sewer Rate Study	April 2012
City of San Fernando	Water and Sewer Rate Study	December 2019
Sanitary District No. 5 - Tiburon	Financial Review	September 2013
Sausalito-Marin City Sanitary District	Wastewater Facilities Financing Plan	May 2016
Selma Kingsburg Fowler Sanitation District	Capital Improvements Program Study	March 2008
Solano County Water Agency	Reserve Fund Study	May 2007
Sonoma County Water Agency	Sewer Service Charge and Volumetric Sewer Rate Study	August 2012
City of Tulare	Bond Financing	2010, 2012, 2013, and 2015
Union Sanitary District	Sewer Capacity Fee Study	October 2010
City of Vacaville	Water and Drought Rate Study	October 2015
Town of Yountville	Water and Sewer Rate Study Recycled Water Rate Study	February 2011 April 2012

Sophia Mills

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909 Marina Village Parkway #135
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EDUCATION

- **Davidson College**
  Bachelor of Arts
  Economics, Spanish

OTHER SKILLS

- Fluent in Spanish
- Proficient in Python 2.7, SAS (statistical analysis software), ArcGIS, HTML, and CSS

REPRESENTATIVE ASSIGNMENTS

Town of Discovery Bay CSD: Water and sewer rate study. Assisted the Town in rate updates to accommodate new wastewater regulatory requirements and capital project funding.

City of Winters: Currently completing a water and sewer rate study to fund capital projects and meet ongoing debt service obligations. Developing new sewer rate structure to facilitate rate collection from various customer classes.

City of Anderson: Completed a water rate study to address depleting reserves. Analyzed multiple rate scenarios to minimize impacts to customers.

City of Tehachapi: Conducted a parks and recreation development impact fee study as well as a civic impact fee study based on a 20-year planning horizon.

City of Brisbane: Currently conducting a water and sewer rate study. The City last updated rates in 2013 but has not done a comprehensive cost of service analysis since 2001. The 2021 update will also evaluate rates for a new development area that will double the City's service area.

SECTION 3: REFERENCES

This section provides four project references. We can provide additional references as needed.

NIPOMO COMMUNITY SERVICES DISTRICT

Blacklake Area Sewer Rate Study

The Nipomo Community Services District (NCSD) is located in southern San Luis Obispo County near Highway 101. NCSD consists of two separately operated wastewater collection, treatment, and disposal systems – the Town system and the Blacklake system. **The Blacklake system serves 559 customers** and utilizes the Blacklake Water Reclamation Facility (WRF). Lechowicz & Tseng Municipal Consultants was engaged to conduct a sewer rate study for the Blacklake sewer system. L&T's final rate report was accepted by the Board of Directors and the successful Proposition 218 hearing was held January 2019.

The Blacklake community's prior rate study process occurred in 2007 and was contentious. The ratepayers achieved a majority protest and the rates could not be adopted. Ultimately, NCSD proposed lower rate increases that eliminated capital improvement funding, and NCSD implemented a series of rate adjustments from 2009 to 2013. For the 2018/19 rate study, L&T Municipal Consultants was tasked with developing a plan that would provide "catch up" capital project funding, meet inflationary cost increases, and gain acceptance from the homeowners. Moreover, NCSD is regionalizing the Blacklake system with the Town system. The 2018/19 plan provides adequate funds to keep the Blacklake system operating efficiently while regionalization is completed.

Mario Iglesias
General Manager
miglesias@ncsd.ca.gov
(805) 929-1133

Ms. Lechowicz worked closely with the Blacklake Oversight Committee to develop a 5-year financial plan. Where possible, the plan assigned major treatment plant improvements to later years so that capital funding could be reallocated to regionalization projects if appropriate. Ms. Lechowicz was also careful to minimize rate structure changes to provide continuity with the prior rate study and to mirror the Town system's rates.

L&T was recently re-hired by Nipomo CSD to conduct a Streetlight Rate Study for the Blacklake Streetlight Assessment District. Our work is ongoing.

Highlights:

- Review of local service vs. regionalization
- Rate structure designed to provide equity with NCSD's other service area
- Well-attended public workshop

CITY OF KERMAN

Utility Rate Study

Kerman is a city of about 14,000 people located in Fresno County about 15 miles west of the City of Fresno. October 2018, L&T completed a Water and Sewer Rate Study for the City. Alison Lechowicz served as lead analyst and project manager.

The rate study corresponded with the City's water metering project. A key element was to project water use for newly metered customers (about half the service area). We compared the characteristics of the fully metered and newly metered customers to conservatively estimate water consumption. As part of the study, Ms. Lechowicz advocated for ongoing pipeline replacement funding. Prior to this effort, City policy was to forego main replacements to keep rates as low as possible. L&T was successful in raising the rates to reinvest in infrastructure to avoid costly future repairs.

Carolina Camacho
Finance Director
ccamacho@
cityofkerman.org
(559) 846-9389

Rate design was a key issue for the sewer rates. The City's prior rate study assigned significantly lower cost to multifamily customers compared to single family customers. Staff was concerned that multifamily customers were not paying their fair share of customer service and maintenance expenses. L&T conducted a cost allocation and flow analysis to justify a rate adjustment for multifamily customers.

Ms. Lechowicz assisted the City with Proposition 218 implementation. Activities included drafting the public notice, reviewing edits with the City Attorney, answering procedural questions, attending the public hearing, and certifying the protest vote tabulation.

Highlights:

- Projected water use for newly metered customers
- Focused on customer service and administrative cost allocation for customer classes

CITY OF WATERFORD

Sewer Rate Study

The City of Waterford (City) is located in Stanislaus County and is home to a population of about 8,500. June 2019, Lechowicz & Tseng completed a sewer rate study for the City. Alison Lechowicz served as project manager and lead analyst.

Michael Pitcock
City Manager
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Prior to L&T's study, the City's rates were last updated in 2016. At that time, all rate categories were increased by the same percentage each year. Our study offered a more detailed analysis of wastewater flow and pollutant loading patterns of 17 customer classes. This analysis was critical to meeting the proportionality requirements of Proposition 218. The prior study did not document how expenses were allocated to various classes of service. L&T reviewed winter water use data as a proxy for sewer flow and compared our estimates with state averages and total flows at the wastewater treatment plant.

We conducted a detailed financial plan to ensure that rates fully cover operations, repair and replacement of aging assets, debt service, and contribution to reserves. The sewer utility had been meeting operating costs, but due to inflationary increases, was in danger of missing its debt service coverage requirements on outstanding bonds. L&T worked closely with the City to fine-tune the sewer capital improvement plan to develop an affordable series of rate increases to meet debt coverage while cash-funding new projects.

Our services also included Proposition 218 assistance. L&T developed a mailing list from the property tax roll and utility billing records. We coordinated the printing and mailing of notices. Ms. Lechowicz attended the public hearing, wrote a meeting outline (script) for City Council, tabulated the protest votes, and certified the results.

Highlights:

- Analyzed flow and pollutant loading for 17 different customer classes
- Updated capital improvement plan to meet debt coverage requirements

CITY OF TEHACHAPI

Water and Sewer Connection Fee Study

Jay Schlosser
Development Services Director
jschlosser@tehachapicityhall.com
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February 2020, L&T finalized a water and sewer connection fee study for the City of Tehachapi (City) (population 13,000). Alison Lechowicz served as lead analyst and project manager. The City collects fees from a variety of sewer trunk planning areas throughout the City and is facing significant commercial growth along its freeway corridor. Most connection fees had not been updated in 10 to 20 years.

Key components of our work were to standardize the fees and provide a robust administrative record. Through the data collection process, we discovered the basis of the fees varied throughout the City. Sewer fees were collected on a $/parcel basis, $/dwelling unit, or $/gallon per day depending on location. Moreover, the City's fee schedule had over 50 land use types leading to confusion amongst the development community. L&T's report standardized fee collection on a $/dwelling unit basis with underlying water use and sewer flow assumptions provided by an engineering consultant. We also submitted extensive documentation describing water use, sewer flow, and pollutant loading estimates for various commercial land use types. The City did not have this documentation in prior reports.

L&T provided special consideration of the City's infrastructure needs. Prior development plans included large-scale expansion of the City's wastewater treatment plant. However, the City elected to implement smaller, incremental expansions. These expansions were partially funded through low-cost loans and principal forgiveness. L&T determined practical infrastructure plans and likely out-of-pocket costs.

L&T was re-engaged by the City to conduct a Parks and Civic Impact Fee Study. The study was completed March 2021.

Highlights:

- Standardized fees to increase ease of administration
- Provided extensive documentation of basis of fee calculations
- Assisted in drafting infrastructure development plans

SECTION 4: SCOPE AND SCHEDULE

OVERVIEW

L&T strives to be flexible and responsive to our clients. We have an excellent track record of completing assignments on time and on budget. During project initiation, we will finalize the schedule and set deliverables by working backwards from your desired Proposition 218 hearing date. Our project management approach is to provide regular check-ins to present draft calculations to staff and monthly billing summaries to ensure that the project is on schedule and within budget. As the project moves into the public sphere, L&T will coordinate closely with District staff, Board of Directors members, and legal counsel to finalize our documents.

For the sake of brevity, we have provided a high-level overview of our scope of services in the figure below and the rest of this section elaborates on our workflow.

SCOPE

Task 1 – Project Kickoff and Data Gathering

Kickoff Meeting
L&T will meet (via telephone or video conference) with District staff for a project kickoff meeting to review study goals, milestones, identify project team members, and determine roles and responsibilities.

Data Gathering
Assemble the necessary data to complete the study. The goal is to understand the District's financial status, operating costs, current rate structure, and utility billing information. A data needs list will be provided to the District prior to the kickoff meeting including (but not limited to):

- Recent budgets and audits
- Current fund balances
- 3 years of utility billing data
- Agreements with outside agencies (if any)
- Existing debt service schedules
- Development projections
- Capital improvements plans and master plans
- Potential outside funding sources

Task 2 – Financial Plan

Determine Annual Revenue Requirements

As a first step, L&T will review current revenues. With staff input, we will estimate future operating and capital expenditures to estimate annual revenue needs. We will factor in the loss of Forest Service revenues, impacts of Covid 19 shutdowns, repairs and replacements, cost escalation, sewer flows, regulatory compliance, and any operational changes to ensure that all future expenses are included. L&T will work with staff to determine appropriate inflationary increases.

Review Reserve Fund Targets

This subtask involves reviewing the current reserve balances and evaluating reserve targets for emergency reserves, rate stability reserves, long term capital reserves, or other categories as appropriate. At minimum, our analysis will review the age and condition of the system, annual depreciation costs, debt service, and expenses related to emergencies.

Evaluate Debt Service Coverage

L&T will review budgets, audits, and loan documents to understand current debt obligations. We will determine current coverage ratios based on net operating revenues compared to annual debt service expenses. Our final rate recommendations will include a recommendation for whether the District's bank loan (current repayment through 2028) can and should be paid off early or refinanced.

Review Capital Improvement Needs

Our cash flow analysis will incorporate infrastructure projects identified by Capital Improvement Plans. Our study can evaluate the impacts of various funding scenarios, ranging from a "bare bones" option in which rates only fund critical improvements to a fully funded scenario that includes all proposed projects. We will work with the District to determine project affordability and adjust our rate recommendations accordingly. L&T will review various financing options to fund capital needs, including pay-as-you-go/cash funding and other debt financing alternatives, such as State loans/grants, bank loans, and certificates of participation/bonds. Our final submittal for this subtask will include debt coverage calculations for both existing and proposed debt.

Develop Cash Flow Projections & Rate Increases
Annual revenue requirements and capital funding needs will be used to develop long-term cash flow projections summarizing the financial position of the utility over the next 5 years. The cash flow projections will estimate annual rate increases needed to meet annual revenue requirements, debt obligations, and reserve fund targets.

Sensitivity Analysis
Based on input from the project team, L&T will incorporate rate sensitivity analysis to determine affordability. We will determine rate impacts under various scenarios, possibly including grant funding of projects, debt funding of projects, high sewer treatment costs vs. low treatment costs, etc. Sensitivity analysis can often become an iterative process. L&T is flexible to run additional scenarios as needed.

Task 3 – Cost Allocation

Evaluate Customer Billing Data
We will evaluate historical and current wastewater flow and pollutant loading assumptions, commercial minimum fees, and other billing data to estimate future sewer fixed costs and flows. A key aspect of this task is to determine the amount of revenue collected from fixed charges versus usage rates.

Functionalize Costs
Functionalization is the allocation of expenses by major operating activities for the utility, including treatment, flow, BOD and TSS, overhead, and administration. L&T will evaluate the fixed and variable costs recovered for both residential and commercial customers and make adjustments as appropriate.

Allocation to Customer Classes
After costs have been categorized by function, expenses are then allocated to each customer class based on wastewater flow and loading characteristics. The result produces fixed and variable revenue requirements for each customer class which can be recovered via fixed charges and usage rates. The allocation to customer classes will meet the proportionality requirements of Proposition 218. Our evaluation for this subtask will also include a review of existing customer classes.

Task 4 – Rate Design

Assess Rate Structure and Customer Classifications
Review the District's current rate structure and customer classifications to assess the advantages and disadvantages of the existing system and to determine potential adjustments. While compliance with Proposition 218 will guide all our recommendations, additional criteria may include: ease of understanding, revenue stability, the impact on customer bills, public implementation, compatibility with the existing billing system, and staff effort needed for administration.

Survey of Local Rates

We will prepare a residential bill survey comparing the District's current and proposed bills to other local agencies. The survey will be summarized in tables and charts that can be used for outreach, presentations, and the final report. We can also prepare a commercial bill comparison for different levels of use. The final list of surveyed agencies will be determined by the District.

Rate Alternatives

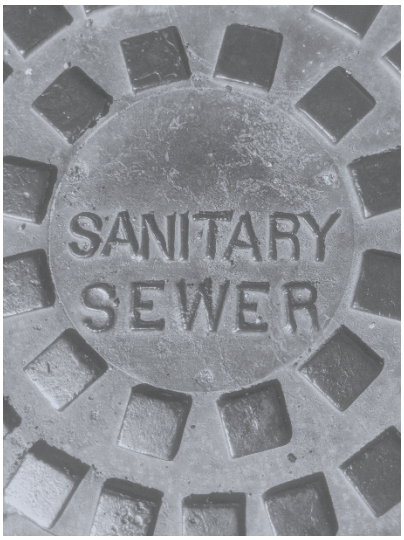
Based on the criteria developed with staff and the cost of service analysis, we will identify alternative rate structures or modifications to the rate structure if warranted. Though the District's current residential and commercial rate structures are appropriate, we will confirm the underlying flow and pollutant loading assumptions are sound and can review options such as adding capital improvement or debt surcharges. Even if the District elects to maintain the current rate structure, we intend to provide a detailed analysis to ensure compliance with the requirements of Proposition 218. L&T will compare our estimates and recommendations with those used by other local entities, and the benefits of any proposed modifications will be weighed against the financial impacts on ratepayers.

Bill Impacts

Based on the recommended rate options, we will calculate the bill impacts for a sample of typical customers including both residential customers and low and high discharge commercial customers. We will calculate the impacts to ratepayers, and if needed, develop an implementation plan to phase-in adjustments.

Develop Rate Recommendations

Based on the funding option selected and any rate design adjustments, L&T will provide a 5-year plan of rate changes. The final plan will show projected rates for each customer class for each year.



Task 5 – Report

Submit a draft summary report for District review and feedback. The draft report will provide preliminary findings and recommendations and discuss key alternatives when applicable. L&T will take input on the draft report from the District's project team and Board, then incorporate all staff comments and update recommendations accordingly. The final report will reflect input received. Our reports are intended to serve as the administrative record for the District and will be compliant with Propositions 218 and 26. All study materials will be submitted to the District in their native format (Word, Excel, Powerpoint, etc.). L&T focuses on straightforward reports and models that easily convey information. L&T's materials do not contain any proprietary information or specialized software. We can also draft the District's Proposition 218 notice and community outreach materials as needed.

Task 6 – Meetings & Presentations

As requested by the District, L&T proposes one in-person meeting for the rate study, with additional meetings conducted virtually. Virtual meetings will be to review preliminary recommendations and receive input from the District before submitting draft reports. Topics will include rate study methodology, draft results, funding challenges, and legal requirements. L&T remains flexible to attend virtual and in-person presentations as needed to meet District needs. Before Board meetings, L&T will provide draft PowerPoint files to staff for review before our presentation materials are made public. The final meeting will be the Proposition 218 rate hearing, which L&T will attend in-person. Supplementary in-person meetings can be included for an additional fee.

DELIVERABLES

- Data request list
- Funding alternatives including debt, rate (cash) funding, grants, and use of reserves
- Debt coverage projection
- Refinancing and/or early loan payoff analysis
- Review of prudent reserves
- 5-year cash flows with an evaluation of ratepayer affordability
- Evaluation of rate design considerations: residential flow and loading assumptions, commercial minimum fee, fixed and variable (volume) rates, etc.
- Final rate projections
- Sample bill impacts
- Rate survey of local agencies
- Draft and final reports
- Virtual progress meetings with staff and action items distributed to the project team
- One in-person meeting for the Proposition 218 hearing
- Proposition 218 public notices and/or educational materials

SCHEDULE

Provided below is Lechowicz & Tseng's preliminary schedule for the Wastewater Rate Study. The schedule provides for the Proposition 218 hearing in June 2022 and new rates going into effect July 2022. We will begin work immediately following a notice to proceed and expect our cost of service modeling to occur primarily in December and January. L&T intends to provide draft results in February to staff and the Board. We will incorporate edits into our final draft that will be presented in April and trigger the Proposition 218 noticing process. L&T understands the District has one in-person meeting planned for this assignment – attendance at the Proposition 218 hearing.

PROJECT TASK	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
1. Data Gathering								
2. Financial Plan								
3. Cost Allocation								
4. Rate Design								
5. Report				D	F			
6. Meetings & Presentations	V		V	V		V	PROP 218	*

D – draft results submitted; F – final report submitted; V – virtual meeting or presentation; * – in-person meeting

Provided below are our suggested virtual and in-person meetings. Additional virtual meetings can be added as needed. Supplementary in-person meetings can be added for an additional fee. L&T remains flexible to attend the public meetings in-person or virtually.

Virtual Meeting #1	Kickoff meeting to be conducted ASAP after notice to proceed
Virtual Meeting #2	Progress meeting with staff to review preliminary rate recommendations
Virtual Meeting #3	Presentation of draft results
Virtual Meeting #4	Presentation of the final report; Board authorizes the Prop 218 process
Final Meeting	Proposition 218 Rate Hearing (suggested in-person meeting)

SECTION 5: COST PROPOSAL

BUDGET

The following table outlines Lechowicz & Tseng Municipal Consultants' proposed budget for this study. We remain flexible to add or subtract tasks and adjust the budget accordingly. The budget includes one in-person meeting. Supplementary in-person meetings can be added for $1,500 per meeting (for staff time and travel expenses).

PROJECT TASKS	HOURS				BUDGET
	Lechowicz	Tseng	Mills	Total	
	Project Mgr	Co-Project Mgr Peer Review	Financial Analyst		
	$195/hour	$195/hour	$95/hour		
1. Data Gathering	4	0	6	10	$1,350
2. Financial Plan	14	2	10	26	$4,070
3. Cost Allocation	10	0	8	18	$2,710
4. Rate Design	14	2	10	26	$4,070
5. Report	8	2	14	24	$3,280
6. Meetings & Presentations	14	2	8	24	$3,880
Total	**64**	**8**	**56**	**128**	**$19,360**

Estimated Expenses - Travel for one in-person meeting	$250
TOTAL PROJECT BUDGET	**$19,610**

Note: Hours listed above are estimates. Consultants are assigned to the study weekly or monthly based on expertise and availability. Total firm time and materials are billed monthly up to the not-to-exceed contract amount.

BILLING RATE SCHEDULE 2021-2022

Lechowicz & Tseng's hourly rate is $195 for principals and $95 for staff analysts. No subconsultants are needed for this assignment. The professional time rate includes all overhead and indirect costs. Direct expenses incurred on behalf of the client will be billed at cost. Direct expenses include, but are not limited to:

- Travel, meals, lodging
- Printing and report binding
- Outside software development
- Automobile mileage (IRS rate)
- Courier services and mailing costs
- Special legal services

SECTION 6: DISCLOSURES

NO CONFLICTS OF INTEREST

The firm of Lechowicz & Tseng Municipal Consultants and its employees have no personal or professional financial or other interests which could be a conflict of interest.

MUNICIPAL SECURITIES RULEMAKING BOARD

Depending on the extent of services provided under the financial planning task, the study may include municipal advisory activities subject to Municipal Securities Rulemaking Board (MSRB) oversight. Our duties as a Municipal Advisor are listed below:

- Lechowicz & Tseng Municipal Consultants will notify the client in writing, if and when, our services transition into municipal advisory services as categorized by the MSRB. Municipal advisory services will cease when the final report is presented to the client.

- Lechowicz & Tseng Municipal Consultants will provide advice and conduct activities with a "duty of care" and a "fiduciary duty" to the client. Our role and responsibilities during this engagement will continue through the completion of the project.

- Lechowicz & Tseng Municipal Consultants is a registered Municipal Advisor with the Securities and Exchange Commission (SEC Registration No. 867-02374) and the Municipal Securities Rulemaking Board (MSRB ID K1236).

- Lechowicz & Tseng Municipal Consultants has never been cited for any legal or disciplinary action regarding municipal advisory activities.

- Lechowicz & Tseng Municipal Consultants has not and will not receive any compensation from any third party seeking to provide services, municipal securities transactions, or municipal financial products related to this assignment. L&T or any of its employees will not engage in any activities that would produce a direct or indirect financial gain for the firm other than compensation for our services identified in this proposal.

The website address for the Municipal Securities Rulemaking Board (MSRB) is www.MSRB.org. The MSRB's website provides a municipal advisory client brochure that describes the protections that may be provided by the MSRB rules and how to file a complaint with an appropriate regulatory authority. The municipal advisory client brochure is accessible via a link on www.MSRB.org or can be downloaded from http://www.msrb.org/~/media/Files/Resources/MSRB-MA-Clients-Brochure.

THANK YOU

LECHOWICZ + TSENG
MUNICIPAL CONSULTANTS

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HANSFORD ECONOMIC CONSULTING LLC

Wastewater Rate Study

PROPOSAL

Prepared for
Bear Valley Water District

August 31, 2021

HEC No. 210363

HANSFORD
ECONOMIC CONSULTING LLC

PO Box 10384 Phone: 530-412-3676
Truckee, CA Email: catherine@hansfordecon.com

August 31, 2021

Mr. Jeff Gouveia, General Manager
Bear Valley Water District
441 Creekside Drive
Bear Valley, CA 95223

Subject: Wastewater Rate Study

Dear Mr. Gouveia:

Hansford Economic Consulting LLC (HEC) is pleased to submit the enclosed proposal to provide a Wastewater Rate Study (Study) for the Bear Valley Water District (District). The Study will serve as an essential cornerstone in planning for the District's wastewater system, supporting continuation of excellent service to its customers with adequate revenue streams. The Study will encompass all the following key elements of a rate study: revenue sufficiency, cost of service, asset management, capital improvements funding strategy, and rate structure.

HEC has been in business since 2005; it is organized as a self-member LLC. Its Principal, Catherine Hansford, brings more than 20 years of experience in municipal finance with specialization in the water industry. With a proven track record of completed projects and references listed herein, HEC offers the necessary skill set for successful, straightforward execution of the Study. We work with staff, engineers, bond counsel, planners, public outreach and legal professionals routinely to find solutions to unique municipal finance circumstances. HEC is based in Truckee, CA; however, we work throughout Northern California, Southern Oregon, and Northern Nevada.

HEC is committed to a positive and successful experience working with staff and the Board of Directors to complete the Study. HEC's proposal is based on many years of experience performing rate studies, understanding the process needed not only to perform the work but to present it so that decision makers understand it; and that ultimately completion of the Study results in smooth implementation for staff responsible with execution of revised rates.

We look forward to hearing from you. Please direct all correspondence to catherine@hansfordecon.com, or call me at (530) 412-3676.

Sincerely,

Catherine R. Hansford, Principal
HANSFORD ECONOMIC CONSULTING LLC

Proposal Contents

Section 1. Project Understanding and Scope of Services

Project Understanding and Objectives

The Bear Valley Water District (BVWD or District) wants to evaluate revenue sufficiency for wastewater collection and treatment operations over the next five years given current known and estimated future costs and changes in customer base, particularly of commercial customers. The evaluation will include a review of cost allocation among customer groups, and the potential need to change the rate structure to meet BVWD's cost of service and service delivery goals.

Utility rates must be studied on a routine basis to ensure that the utility's enterprise fund is achieving revenue sufficiency in the most equitable fashion. Any recommended changes must be robust in determination and clearly understood by the public. HEC anticipates that fairness or equity of rates will be closely scrutinized; standard industry practices will be followed in the rate-setting process.

HEC's goal is to enable the BVWD to make informed decisions and to increase customer understanding and knowledge of wastewater services so that financial decisions are understood, even if they are not favored. HEC's methodology focuses on all parties paying their fair share of system costs.

The wastewater rate study will:

1) Calculate rates that recover the revenue required to operate the wastewater system in a safe manner and in compliance with existing and anticipated regulations including ongoing operations and maintenance, completion of major rehabilitation and new capital improvement projects, and debt service payments.

2) Document the cost allocation methodologies such that calculated rates are understandable to customers and decision-makers, and meet California's cost of service requirements.

3) Provide a financing plan for timely completion of planned capital improvements.

4) Calculate five years of rates that will support financial stability of BVWD given potential changes in customer base and wastewater flows.

The calculated proposed rate schedule will be designed to achieve reasonableness, equity among customer groups, and compatibility with BVWD's billing software and will be both understandable and easy to implement.

HEC customizes rate and fee models for each client's needs. HEC will craft a multi-year financial model in Microsoft Excel, giving the ability to test various key assumptions, such as operating reserve levels, different capital financing scenarios, and rate structures. All assumptions used in the model will be clearly defined, and tables will be presented in an easily understandable format. The model may include several scenarios; all scenarios will be defined and a baseline scenario will be developed, which will serve to evaluate the impact of changes to any key model assumptions.

Roles and Responsibilities

The role of the consultant is to conduct the Study, to seek input from District staff and Board of Directors (Board) members on direction of the Study, calculate rates and fees that ensure financial stability for the District while meeting legal requirements, and support District staff in preparation of the administrative steps required to adopt updated rates and fees.

The role of the District is to support the consultant with information requested, to apprise the Board of progress on the Study, to prepare the administrative steps necessary for adoption of updated rates and fees, and to inform customers of proposed changes, and adopted rates, fees, and charges changes.

Scope of Services

The proposed scope of services to complete the rate study is described in the following tasks.

TASK 1: PROJECT INITIATION AND MANAGEMENT

Task 1.a: Orientation
HEC will start the Study by providing the District with a list of data needs. Once the District has reviewed the list, HEC will set up a virtual orientation. The objectives of the meeting are to review the primary data provided by BVWD as well as discuss overall scope and schedule of the Study. Topics to be reviewed at the kick off meeting include, but are not limited to:

- Overview of the existing facilities and operations to be supported
- Current rate structure
- Capital improvement plan and schedule
- Reserve policies
- Pay as you go funding versus debt financing for capital facilities
- Asset replacement and funding

Additionally, policy review with staff includes the key factors driving the need for rate adjustments, including regulatory requirements, BVWD financial policies, legislative mandates,

and so forth. Review of financial goals and policy objectives is important as they will shape the development of the financial model and recommendations of the rate study.

Task 1.b: Project Management
This task includes time for Catherine Hansford to manage, track, and report on project progress every month. It entails review of work status/progress, invoicing/determination of remaining budget, and coordination with BVWD staff.

Deliverables: *List of data and information needs for the study; Kick off meeting agenda; Monthly progress reporting and invoices.*

TASK 2: DATA COLLECTION AND DEVELOPMENT

Data collection under this task includes collection of information by the consultant and the District. HEC will rely on the District to provide all the primary data to be used in the analysis, including customer billing data, wastewater asset inventories and book values. All financial data including capital improvement costs will be furnished by the District.

Task 2a: Financial Review
HEC will thoroughly review the sewer funds, including revenue and cost information for all operations, maintenance, administration, general expenses, short and long-term liabilities, as well as capital and reserve expenditures. The financial review will establish the historical and current financial health of BVWD under the current rate and fee structures, generally describe components of annual revenues, and characterize expenses.

Task 2b: Customer Database Review
HEC will review the sewer customer database provided by BVWD and will format it for use in the rate study. HEC will use historical billing and effluent flow data as well as industry standard factors to examine wastewater flow patterns by different utility customer groups (single family, multi-family, lodge, for example).

Deliverables: *Wastewater electronic customer database for the rate study.*

TASK 3: FINANCING PLAN AND REVENUE REQUIREMENT

Task 3a: Capital Improvement Financing Plan
HEC will summarize the wastewater capital improvement plan (CIP) as provided by BVWD and will present a financing plan to ensure the facilities are completed in a timely fashion, while minimizing the impact to rate payers. HEC's Excel model will be able to evaluate the impact of funding the CIP by priority and cash/debt funding.

Task 3b: Revenue Requirement Projection
The projected revenue requirement is the revenue necessary to fully cover all expenditures net

of other operating and non-operating revenues. The revenue requirement typically comprises operating expenses, capital improvement costs (system rehabilitation and new infrastructure), debt service, and reserve/emergency funds. Operation and maintenance expenses may be projected using historical annual percentage increases, or some other index, such as a consumer price index; projection methodology will be discussed with staff. Expense item categories, such as utility costs and labor costs, pass-through charges, and third-party service provider charges, will be projected independently.

The projected revenue requirement may also include other non-operating cost considerations, such as an operating reserve, rate stabilization fund, or additional funds to meet debt service coverage requirements. Non-operating revenues, such as interest revenue, late charges and other miscellaneous revenue sources, will be included as credits in the analysis so that the revenue requirement is not over-estimated.

Task 3c: Cash Flow Projection
A projection of cash flow will be presented to estimate sufficiency of funding for the next five years, demonstrating adequate debt service coverage and reserve levels are met.

Deliverables: *Draft financing strategy, revenue requirement and cash flow tables.*

TASK 4: COST OF SERVICE AND RATE DESIGN
Once the projected revenue requirement is established, it is typically allocated to user groups based on cost classification (collection or treatment plant costs) and customer usage characteristics (flow and load including Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS) parameters). For BVWD, only flow will be used as the cost allocation basis because there are no industrial customers and wastewater strength is domestic for all customers.

The rate study will consider up to two alternative rate structures as may be determined through the customer database and profiling analysis, as well as BVWD input. BVWD currently has a simple rate structure; it is not the intent of this study to create a new rate structure that is complicated and expensive to implement. If a revised rate structure is recommended, it will be with input from staff and stakeholders, given billing system capabilities, public understanding of utility bills, and other stakeholder concerns. HEC will provide guidance and advice to District staff to ensure the proposed fee structure complies with Proposition 218 and all related laws, and that fees are implemented within the District's desired timeline.

TASK 5: RATE CALCULATION AND BILL IMPACT

Task 5a: Rate Projections
The cost of service analysis leads to the calculation of monthly user rates so that the system is adequately funded for existing and projected future costs and that the rates have considered the demand for service by each customer type. The calculated rates will be shown as both

monthly, which most people find easier to think about, and quarterly, which is how often bills are sent to customers. In addition, HEC will demonstrate the impact of the calculated new rates on different customer types.

Task 5b: Regional Rate Comparisons (Optional)
Under this optional subtask, HEC would compare the calculated rates with those of other regional or good comparison wastewater providers.

Deliverables: *Tables with calculated new rates; graphs showing bill impacts and (optional) regional wastewater provider rate comparisons.*

TASK 6: DRAFT REPORT AND PRESENTATIONS
HEC will prepare a draft report documenting the methodologies used, detailed calculations of rates, findings, and recommendations. The report will demonstrate cost of service and proportionality requirements such that the District shows compliance with Proposition 218. Following edits and changes to the draft report, HEC will prepare a drat final report for review with the District Board at a public meeting. HEC will summarize the findings of the report in a PowerPoint that will used at public meetings to explain the calculated rate changes.

Deliverables: *Draft rate study report and two presentations for the Board and public. All report versions will be provided in electronic format only.*

TASK 7: FINAL REPORT AND IMPLEMENTATION SUPPORT

Task 7a: Final Report
The final report will not be prepared until after the Board has heard the recommendations of the Study. The final report will reflect direction provided by the Board. HEC will present a summary of the final Study at the public hearing and will be available to answer any questions or comments.

Task 7b: Implementation Support
Implementation assistance includes drafting the public hearing notice, assistance drafting staff reports and reviewing the proposed ordinance. This task does not include mailing public hearing notices or counting protests, which would be conducted by District staff, unless the District desires HEC to subcontract this service (which we frequently do with Schaelene Rollins).

It has been our experience that with utility fees, the greater transparency is and the more opportunity the public has to be heard, the more likely the District is to have a successful outcome. Some strategies we have used to increase understanding include meeting with an ad hoc committee, meeting with Board members two at a time, and holding public workshops. We would determine the best strategy with staff, and if the District wants more extensive outreach, we can add services of a public outreach firm to our contract.

Section 2. HEC Qualifications and Experience

Hansford Economic Consulting LLC

Hansford Economic Consulting LLC (HEC) provides planning, economic, and financial services for public and private clients in the Western United States. The company is owned and managed by Catherine Hansford**,** an applied economist with more than 20 years of experience. HEC clients include regional agencies, counties and cities, special districts, non-profits, private entities, and homeowner associations. HEC's services include:

- Water Utilities Resource and Financial Plans
- Infrastructure Networks Analysis
- Agency Governance, Mergers & Organization
- Economic Development & Business Impact Analysis
- Public Facilities and Services Financing Plans
- Fee Nexus Studies
- Fiscal Impact Studies

Our high-quality work products span a breadth of land and water resource related topics that touch our human communities and environments. HEC endorses progressive and adaptive planning, understanding that plans are useful only if they are comprehensive, relevant to the specific local conditions, and lead to implementation. Our approach is especially desirable when working on sensitive community issues with a divergent customer base and/or the interests of multiple stakeholders. HEC works with clients to find the best solutions for their own unique circumstances by listening to and collaborating with them; this is what sets HEC apart from our competition.

HEC appreciates the challenge of balancing equity, feasibility, and public acceptance goals when approaching fee studies. Water and wastewater fees are a sensitive topic and our approach has been proven successful.

HEC Strengths

- More than 20 years of experience in municipal finance, planning, and economic services
- Specialization in water utilities public finance
- Small project team; hands-on and readily accessible
- Large portfolio of completed rate, user fee, development impact and connection fee water utility studies
- Experience with USDA and SRF funding applications and reimbursement claims

Recently-Completed Utility Rate and Fee Studies

The table below shows examples of utility rate and fee studies completed, or currently being worked on, by HEC within the last four years.

Utility Provider, State	Study
Newman, CA	Water & Sewer Rate Study (2018 & 2019)
Escalon, CA	Water & Sewer Rate Study (2019)
Livingston, CA	Water & Sewer Rate Study (2019)
Sierra County Waterworks District #1, CA	Water Rate Study (2021)
Live Oak, CA	Water & Wastewater Rate Study (2017)
Waterford, CA	Water Rate Study (2016)
Woodbridge Sanitary District, CA	Wastewater Rates Study (2020)
Gold Mountain CSD, CA	Water & Wastewater Rate Study (2021)
American Valley CSD, CA	Water & Wastewater Rate Study (2021)
Ashland, OR	Water & Wastewater Rate Studies (2019)
Coos Bay, OR	Wastewater Rate Study and Cost-Share with Charleston Sanitary District (2018)
Sierraville PUD, CA	Water Rate Study (2021)
Fernley, NV	Water & Sewer Rate and Fee Study (2021)
Linden County Water District, CA	Water & Sewer Rates Analysis (2020)
Spring Creek, NV	Water & Sewer Rates Analysis (2020)
Midway Heights CWD, CA	Water Rate Study (2019)
Georgetown Divide PUD, CA	Wastewater Rate Study (2019)
Donner Summit PUD, CA	Water & Wastewater Rate Study (2021)
Bishop Paiute Tribe, CA	Water & Wastewater Rate Study (2018)
Heather Glen CSD, CA	Water Rates Analysis with Consolidation (2017)

City of Newman, CA
Wastewater Rate Study

Relevance to Bear Valley Water District: *Wastewater rate analysis with lift station cost detail; wastewater rates adopted pursuant to Proposition 218.*

HEC worked with the City to revise its wastewater structure and charges. One key component of the analysis was deciding whether to keep the several pumping zone charges in the City. The analysis required examining costs by customer group (beneficiaries of certain pumping zone costs) and performing a cost-benefit analysis of keeping the pumping zones for revenue collection. Several changes were recommended to customer classifications to improve equity in collection of costs between different customer types and certain individual customers that did not fit into customer classifications. The City adopted the new wastewater rates early 2018. HEC also updated the City's water rates in 2019.

Woodbridge Sanitary District, CA
Wastewater Rate Study

Relevance to Bear Valley Water District: *Wastewater rates updated pursuant to Proposition 218.*

The Woodbridge Sanitary District was in need of a wastewater rate review, particularly in light of known near-term capital improvements. HEC conducted a cost of service and rates review in 2015. Particular challenges included unique customer discharge circumstances and determination of number of equivalent dwelling units (EDUs) for commercial customers. The District successfully adopted increased rates within five months of contracting with HEC. The District hired HEC again to perform an updated study in 2021 and new rates went into effect fiscal year 2022. Wastewater rates are collected with property taxes by San Joaquin County.

Donner Summit Public Utility District, CA
Wastewater Cost of Service and Rate Study

Relevance to Bear Valley Water District: *Fees calculated for existing and future customers adopted through a Proposition 218 process.*

The Donner Summit Public Utility District (District) was operating under a Cease and Desist Order from the State Water Resources Control Board. The District needed significant improvements to the plant to comply. HEC liaised with the CWSRF and the USDA rural utilities programs staff, as well as local CDBG representatives to craft a financing strategy for construction of the approximately $24 million in improvements. HEC assisted the District with formation of a Community Facilities District (CFD) to fund the costs of the project and completed a cost of service study, including user fees and connection fees. The Project broke

ground in August 2012 and a ribbon cutting ceremony took place July 2015.

In 2017, HEC helped the District with renegotiating their CWSRF loan for the wastewater treatment plant and in August 2017, the District's interest rate was decreased to 0.75%, saving District customers $3.5 million. HEC completed an updated wastewater cost of service study in 2018 and updated rates were adopted June 2018. The District and HEC worked with Schaelene Rollins on messaging and the design and content of the Proposition 218 notice. HEC and Schaelene Rollins also supported the District with water rate changes in 2016, and in 2018 conducted a water rate study for a satellite water system in Big Bend.

In 2021, HEC updated both wastewater and water cost of service and rate studies in one comprehensive report. New rates were adopted June 2021. DSPUD has some of the highest wastewater rates in California.

Minden-Gardnerville Sanitation District, NV
Wastewater Cost of Service and Rate Study

Relevance to Bear Valley Water District: *Fees calculated for existing and future wastewater customers.*

HEC was selected through a competitive RFP process to conduct a wastewater utility rates and fees study for the Minden Gardnerville Sanitation District. The study began in October 2020; due to staffing shortages and COVID-19 impacts at the District, the study was paused between January and April 2021. Work resumed and HEC presented findings of the study to the Board of Trustees June 1, 2021. As a result of the presentation of findings, HEC was asked to revise the scope and budget of the contract with the District, extending the time period of the study substantially while an updated Wastewater Master Plan is completed, and adding several services including assisting the District with public outreach and completion of a Business Impact Statement.

Linden County Water District, CA
Wastewater Cost of Service and Rate Study

Relevance to Bear Valley Water District: *Cost of Service Study and Wastewater rates adopted pursuant to Proposition 218.*

New rate studies were necessary in 2020 to a) ensure revenue sufficiency of the utility systems for the next five fiscal years, and b) demonstrate cost-of-service as required by California's Proposition 218. The studies incorporated all three major elements of cost-based rate making; revenue requirement analysis, cost-of-service analysis, and rate-design analysis.

Changes to the water rate structure included removal of five consumption tiers (keeping a base

allowance), establishment of different use rates per thousand gallons for residential, commercial, and school customers, and consolidating In District and Out of District customers into one water rate schedule (previous differences included different base allowances and number of consumption tiers). Changes to the wastewater rate structure included creating new customers groups. Several rate designs were evaluated as part of the study, including fees based on wastewater strength and flow. Another major change for the wastewater system was allocating the revenue requirement projection based on cost functionalization between customer-related and flow-related costs. This change caused bill impacts (increases and decreases) to be significant for some commercial customers. A change applied to both utilities was that those properties contributing property taxes to the District were given a credit on their water and wastewater bills under the new rate structures.

The proposed water and wastewater rate structures were adopted by the Board and only six protests were recorded at the public hearing. Schaelene Rollins assisted with website content development (including an FAQ sheet, comparison graphs with bill impacts and so forth), arranging virtual public workshops, developing and mailing the Proposition 218 public notice, and coordinating publication of notices with local newspapers.

Section 3. Staffing and Resumes

Catherine Hansford • Project Manager • Utility Rates Consultant • Presenter

Catherine has worked in both the public and private sectors over the course of her career. In the public sector, Catherine worked as a senior planner for the Truckee Meadows Water Authority (TMWA), performing management analyst functions such as cost-benefit analysis, managing interlocal agreements, performing rate and fee studies, and working with stakeholders. Catherine served as liaison/chair between TMWA and various customer groups.

In the private sector, Catherine worked for Economic and Planning Systems (Sacramento office) helping clients with municipal bond sales, financing plans, special district formation, user fee studies, fiscal studies, and nexus fee studies. At ECO:LOGIC Engineering (now Stantec), Catherine specialized in water utilities public financing. Since 2005 Catherine has been the Principal of HEC. Notable accomplishments include:

- In 2003, Catherine was selected as Chair of the Advisory Committee for the Regional Water Planning Commission in Washoe County, Nevada.

- HEC assisted the Donner Summit Public Utility District secure financing for their wastewater treatment plant upgrade project in July 2012 and helped DSPUD secure the first refinancing of debt in the State through the California CWSRF. The completion of the project led to the first snow making from recycled water in California at the Soda Springs Ski Resort.

- In 2013, HEC conducted a unique analysis on the feasibility of a special district to retire water rights in the Diamond Valley Basin to rectify over-appropriation of groundwater. The analysis was the first of its kind in the State of Nevada and has been used by the State Engineer in consideration of actions for the hydrographic basin.

- In 2013, 2017, and 2019, Catherine gave a 3-hour class on water and wastewater rate and fee setting for the Nevada Rural Water Association. Held at Truckee Meadows Community College, it was broadcast to colleges throughout Nevada.

- In 2018, Catherine was selected to conduct a fee study for the Salinas Valley Groundwater Basin Groundwater Sustainability Agency. Created as a result of the Sustainable Groundwater Management Act (SGMA), this is a pioneering rate study covering an extremely diverse customer base.

- In 2017, Catherine was asked to contribute to the first ever issue of 'The Water Spot', a joint publication of the Nevada Water Resources Association and the Water Environment Association. The article, about connection fees, was featured in the centerfold of the magazine.

Why we are Best Qualified

HEC primarily works for smaller and more rural communities like Bear Valley. We know that no two water or wastewater systems are the same, and we strive to understand the nuances of each community and their utility systems. Utility fees are a sensitive topic and our approach is desirable when working on divisive community issues with interests of multiple stakeholders. Our utility rate models have withstood the scrutiny of California's rate-setting laws, which are very rigorous for cost of service demonstration, and rate design.

HEC has a reputation for delivering projects on schedule in a professional manner. There will be no replacement of personnel. Catherine Hansford has all the necessary professional skills and knowledge to complete the project; she will lead the project, provide overall project management, coordinate meetings and respond directly to BVWD staff and its consultants.

HEC's Ability to Deliver the Scope of Services
HEC has significant experience in performing the tasks outlined in the scope of services. HEC has calculated fees and presented the findings, led meetings, and written and presented report deliverables for many fee studies. We are proud to produce work products that follow industry best practices to ensure the quality and legal standing of our work.

HEC has earned a reputation for being open-minded, patient, thorough, and excellent at communications with decision makers. Catherine Hansford has first-hand experience of working at a water utility and understands the process necessary for adopting updated rates and charges. Here are some things our clients say about HEC:

"Hansford Economic Consulting has helped take our Regional Water Plan to a higher level. Catherine's specialized knowledge in the utility field has been invaluable in collecting and analyzing cost and financing data from various sources in our community. Her firm's work is thorough, accurate, and well presented; it's executed with the highest level of professionalism. I would not hesitate to highly recommend Hansford Economic Consulting to any of my colleagues." Jim Smitherman, Program Manager, **Western Regional Water Commission**

"I had the distinct pleasure to work with Catherine Hansford for several years at the Truckee Meadows Water Authority. Catherine is a rare combination of powerful analytical skills with an extraordinary ability to assess the big picture; all wrapped together with superior communication skills presented with a sparkling personality. Catherine is definitely someone you want on your team!" Lori Williams, Former General Manager, **Truckee Meadows Water Authority**

"The process, preparation, research and final execution for our project was highly complex, hyper-political, and required aspirational thinking. We needed a firm that could bring the right combination of analytical prowess, professionalism and broad-based economic development experience that could unite various community interests around a common purpose. We got this and more from Hansford Economic Consulting." **Jessie Bahr**, President, **Spring Creek Owners Association**

"Thank you for your excellent work. You and your staff are always professional and on time with deliverables. Thank you for being patient with us as we went through the myriad of changes regarding our Well #10 project. The report your staff provided is excellent. It includes all the information anyone would need to see why we need the rate changes and it's written so that anyone could understand it." **Lewis Humphries**, Finance Director, **City of Newman**

Catherine's resume is provided on the next page.

Catherine R Hansford

HANSFORD ECONOMIC CONSULTING

Water Resources Planning and Utility Rates
Catherine's passion for water resources coupled with her education and career in economics complement one another. In this era when the link between water and economic vitality becomes more evident and stressed, Catherine draws on her experience to assist with decision making for best use of scarce resources and make appropriate financial planning.

Economic Development and Impact Analyses
Catherine provides clients analyses of current and projected economic conditions using key social and economic indicators. She is particularly sensitive to the public process required for economic development and land reuse plans. Catherine assists public agencies to match budgets with level of service needs for public safety, transportation, and other major infrastructure anticipated to support economic development.

Governance, Strategic and Long-Range Planning
Catherine understands what it takes to make paths forward. She has helped regional planning agencies and large community associations assess different forms of governance, craft strategic plans, and make long-range plans in the best interest of both public and private parties. Catherine has worked on several intergovernmental agreements, and facilitated consensus-building processes.

Communications
It is not simply enough to be good at your work; you have to be able to communicate with those you work for. Catherine continually strives to be an excellent communicator. She has completed media spokes-person training, as well as other courses with this goal in mind. In addition, Catherine has managed consumer outreach groups, inter-local working groups and task forces.

Education

M.S. Agricultural Economics (University of Nevada, Reno)

B.S. Rural and Environmental Economics (University of Newcastle-upon-Tyne, UK)

Career

HEC, Principal

ECO:LOGIC Engineering, Senior Economist

Truckee Meadows Water Authority, Senior Water Planner

Economic and Planning Systems, Senior Associate

Recent Presentations

Funding Groundwater Management Programs, **2021 Nevada Water Resources Association Virtual Conference**

Water Rights for Sale: Know what you've Selling or Buying, **2020 Schroeder Law Offices Webinars**

Financial Management: Understand your Cost Structure, Customer Cost-Share Responsibilities and Funding Options, **2019 Videoconference Class for the Nevada Rural Water Association**

Western US Water Issues, **2018 Women in Economics, University of Nevada Reno**

Funding for Flood Facilities, **2017 Nevada Water Resources Fall Conference**

Section 4. References

Client	Contact	Study
Minden-Gardnerville Sanitary District 1790 US-395 Minden, NV 89423	Peter Baratti, General Manager (775) 782-3546 *peter@mgsdistrict.org*	**Wastewater Rates, Capacity Fees and Administrative Fees Study**
City of Newman 938 Fresno Street Newman, CA 95360	Lewis Humphries, Finance Director (209) 862-3725 *lhumphries@cityofnewman.com*	**Water and Wastewater Rate Studies**
City of Fernley 595 Silverlace Blvd. Fernley, NV 89408	Dave Whalen, Public Works Director (775) 784-9929 *dwhalen@cityoffernley.org*	**Water and Wastewater Rate and Fee Study**
Donner Summit PUD 53823 Sherritt Lane Soda Springs, CA 95728	Steve Palmer, General Manager (530) 426-3456 *spalmer@dspud.com*	**Wastewater Cost of Service, Rates and Connection Fee Studies**
Georgetown Divide PUD 6425 Main Street Georgetown, CA 95634	Adam Brown, Water Resources Manager (530) 333-4356 ext. 110 *abrown@gd-pud.org*	**Wastewater Rate Study**
Woodbridge Sanitary District 19720 Benedict Dr. Woodbridge, CA 95258	Neal Colwell, District Engineer (916) 403-5900 *ncolwell@ksninc.com*	**Wastewater Fee Study**

Section 5. Proposed Budget

HEC 2021 Billing Rates *

Staff	Position	Rate per Hour *
Catherine Hansford	Principal	$190
	Admin. / Management	$85

*Billing rates are held for the first 12 months of contract. Rates may be increased thereafter.

Vehicle travel cost is billed at the current Federal mileage reimbursement rate ($0.56 per mile for calendar year 2021).

Estimated Budget

The total estimated budget is $26,200. The estimated cost by task is shown in the table on the next page. Our price estimate is preliminary and negotiable. It reflects the level of effort to complete the scope of services described in our proposal. HEC is open to changing the scope of services and reducing or increasing costs if there are tasks or portions of tasks that the BVWD would like to revise. If the District is looking to reduce the budget, optional task 5.b could be removed ($890) and the number of in-person meetings reduced. Each in-person meeting costs approximately $1,250 more than a virtual meeting.

HEC prepares monthly invoices with a brief description of services performed in the period, as well as percent of budget utilized, that are due on receipt. HEC bills on a time and materials basis per the billing rates shown above. It is anticipated that direct costs could include mileage reimbursement, printing, videoconference hosting fees, and mail and postage costs. HEC never marks up direct costs or subconsultant costs. HEC only bills for the work completed up to the authorized budget amount; however, HEC reserves the right to move budget between tasks, should one task be completed under the estimated amount, and another task be completed over the estimated amount. If additional work is requested that is beyond the authorized scope of services, HEC will request authorization for increased budget. No work beyond that expressly included in the authorized scope of services and budget will be conducted without prior authorization.

The budget excludes any direct costs associated with implementation and public outreach. These direct costs may be paid for by the District or paid for by HEC; if the latter, HEC will pass these costs through to the District in monthly invoices outside of the contract budget amount. An example of this is costs for placing the public hearing notice in the local newspaper.

Task *Billing Rate*	In-Person Meetings	Hansford *$190*	Clerical *$85*	Total
1 Project Initiation & Management		hours	hours	
1.a Orientation		4	3	$1,015
1.b Project Management		6	3	$1,395
2 Data Collection & Development				
2.a Financial Review		8	0	$1,520
2.b Customer Database Review		10	0	$1,900
3 Financing Plan & Revenue Requirement				
3.a CIP Financing Plan		4	0	$760
3.b Revenue Requirement Projection		6	0	$1,140
3.a Cash Flow Projection		2	0	$380
4 Cost of Service & Rate Design		30	0	$5,700
5 Rate Calculation & Bill Impact				
5.a Rate Projections		12	0	$2,280
5.b Regional Rate Comparisons (Optional)		2	6	$890
6 Draft Report & Presentations	2	22	10	$5,030
7 Final Report & Implementation Support				
7.a Final Report	1	9	6	$2,220
7.b Implementation Support		6	4	$1,480
Total Rate Study (rounded)		**121**	**32**	**$25,800**
Estimated Direct Expenses (rounded)				$400
Total Cost Proposal [1]				**$26,200**

[1] HEC reserves the right to move budget between tasks as necessary to complete the scope of services.

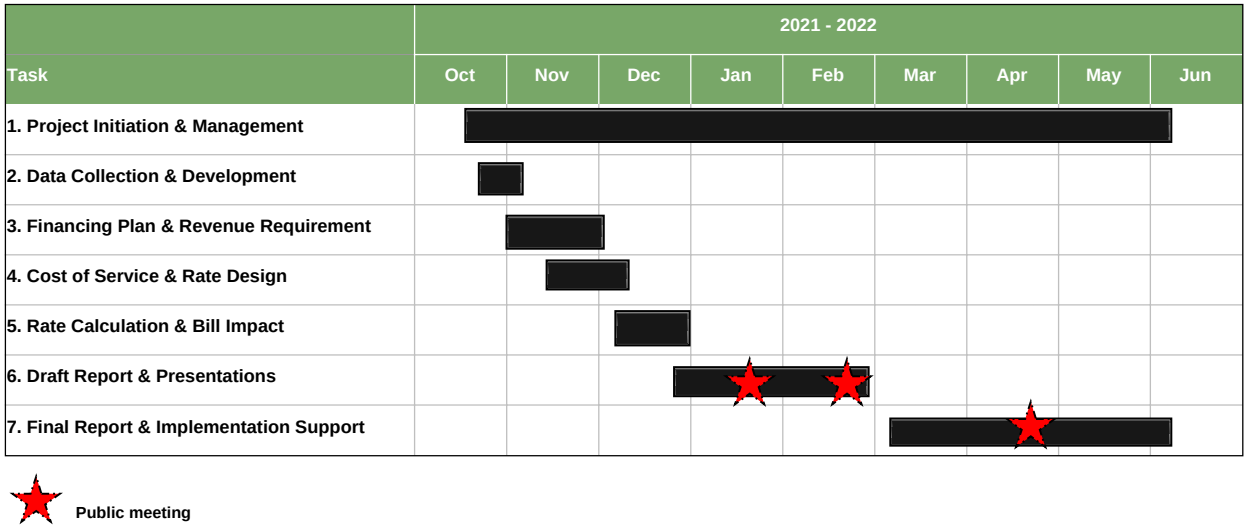
Section 6. Proposed Timeline

Schedule

HEC anticipates that a draft report and presentation to the Board can be completed within three months of project start. A realistic implementation date for new rates is probably July 1, 2022. This implementation date would allow for public digestion of proposed new rates, and time for any billing software programming changes to be made; however, the Board would need to conduct special meetings to meet this timeframe.

The chart below shows when tasks would need to be completed to meet a July 1, 2022 implementation date. The public hearing is estimated to take place the fourth week of May; the first reading of the ordinance can occur at the same meeting. The second reading of the ordinance can occur at the next Board meeting, and allowing 30 days for effect after passage, the new rates could be effective July 1. It is assumed that all meetings, with the exception of two Board meetings and the public hearing (shown as red stars below), will be conducted via videoconference; however, the ability to conduct any in-person meetings is dependent on current public health orders due to the coronavirus pandemic.

Preliminary Schedule



The preliminary schedule assumes that the process goes smoothly. HEC's experience with rate studies is that the timeline can change due primarily to formatting of data, changes to capital improvement plans, and stakeholder input. HEC is flexible to changes in schedule.

SUSP
SPECIALIZED UTILITY SERVICES PROGRAM

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Sacramento, CA 95834
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Bear Valley Water District
Wastewater Rate Study Proposal
September 20, 2021

1. SUSP

2. Scope of Services

3. Price Proposal

4. Proposal Summary

1. Specialized Utility Services Program, Inc. (SUSP)

The Specialized Utility Services Program, Inc. (SUSP) is a subsidiary company of the California Rural Water Association. CRWA established the SUSP program in order to answer requests from member and non-member systems for assistance and services that require more time and resources than CRWA can provide to systems utilizing our technical assistance and training programs. The SUSP program is set up to provide services in contract water and wastewater operations; contract utility management; rate studies; MHI studies; and a variety of contract management and operator training.

2. Scope of Services

General Services – SUSP will provide Bear Valley Water District with an analysis with recommendations on the district's wastewater rates. SUSP will calculate the fees based on information provided by the system, and in accordance with the district's current policies on wastewater rates and fees. The rate study will be based on information provided by the district's management. SUSP will provide a detailed report upon completion of the analysis. Prop 218 support is available as well at an additional cost.

3. Price Proposal

SUSP will provide the services outlined in Section 2 - Scope of Services for a set fee of $12,870 based on 552 connections for the rate study. This price includes travel and time for one (1) meeting (in-person or otherwise) with the appropriate staff, committee, and/or board for review and presentation of the rate study. Any additional meetings/travel will be billed at federal per-diem and mileage rates, plus a fee of $75.00 per hour. Prop 218 support is available for an additional fee of $1,400. In the performance of the rate study, the following information will be needed, and other information may be requested as we move through the process:

- ✓ The system's latest audit
- ✓ The most current full year's budget
- ✓ Current rate structure
- ✓ Management input on desired reserve accounts, systems needs for equipment and minor infrastructure needs for future budgeting purposes and planning
- ✓ Any capital improvements that are needed
- ✓ Any master plan infrastructure repairs or replacements that need to be funded via these rates
- ✓ Number of customers or connections

The overall goal of a rate study is to determine rates that will fund the district's budget; reserves or depreciation reserves; and any other designated reserves or accounts that the staff, management and board

agree upon. It is crucial that we get all this information up front in order to determine appropriate rates and structure to produce the desired revenues needed to appropriately fund the system.

4. Proposal Summary

This is a price proposal and a more formal contract will be submitted upon an agreement on this proposal. Although are prices for the services we provide are fixed, we are flexible in providing those services, so please feel free to discuss any aspect of this price proposal with me for clarification. If you would like to see changes in the scope of services, we will be glad to discuss any ideas or options that you might want to bring to the table. This proposal was put together based on the scope of services. If you are in agreement with this price proposal, please sign, date and return to:

Via mail to: SUSP, Inc., 1234 North Market Boulevard, Sacramento, CA 95834 - Attention: Thomas Elisher
Or via Fax: 916-553-4904 or via Email: telisher@calruralwater.org

Submitted by: _____ _____

Dustin Hardwick, Deputy Director — Date
Specialized Utility Services Program, Inc.

Accepted by: _____ _____

Signature — Date

_____

Printed Name and Title

bear valley
WATER DISTRICT

2021 Sewer Rate Study Proposal

September 16, 2021

HILDEBRAND
CONSULTING

Table of Contents

1. COVER LETTER

Jeff Gouveia, General Manager
Bear Valley Water District
441 Creekside Drive
Bear Valley, CA 95223

September 16, 2021

Subject: Proposal for Sewer Rate Study

Dear Mr. Gouveia,

In response to the Bear Valley Water District's request, Hildebrand Consulting, LLC. is pleased to submit this proposal to conduct a Sewer Rate Study (Study).

Mark Hildebrand is a sole proprietor consultant with over 20 years of broad experience in California as a utility rate and management consultant to municipal utilities such as the District. He has performed hundreds of studies covering a diverse range of rate setting, cost allocation, and financial planning to more than 50 clients, many of which are located in Northern California and the Bay Area. As a regional and independent consultant, Mark Hildebrand offers a distinctive value proposition: he will personally be *directly* engaged in all facets of the project, including all meetings, communications, financial models, and deliverables. Being a sole proprietor also allows him to provide his seasoned services at significantly more affordable rates than peers at larger consultancies.

We propose to develop a financial plan and sewer rates that achieve full cost recovery of operating and capital expenses while meeting all legal requirements, including Proposition 218. The financial plan will identify annual rate revenue needs with consideration of operating and maintenance costs, debt service obligations, capital program needs, and financial reserve policies. We will ensure that sewer rates are based on equitable cost allocation methodologies and the rate structures are clear, understandable, and have cost bases that meet the requirements of California state law and District policy objectives.

We are thankful for the opportunity to be of service to Bear Valley Water District for this study, and please let me know if you have any questions regarding this proposal.

Sincerely,

Mark Hildebrand
Owner of Hildebrand Consulting, LLC.
mhildebrand@hildco.com
510.316.0621 (m)

2. TEAM EXPERIENCE AND UNDERSTANDING OF PROJECT

Mark Hildebrand is the sole proprietor of Hildebrand Consulting and brings over 20 years of experience as a consultant to municipal utilities and provides a broad range of financial, utility rate, and management consulting services. He has performed hundreds of studies covering a diverse range of cost allocation issues, financial planning, business case evaluations, and litigation avoidance to more than 50 clients. He has been published and frequently speaks on topics such as rate-setting under the requirements of Proposition 218, cost-of-service principles, cost allocation methodologies, emerging regulatory issues, consolidation studies, and strategic business planning. He has worked with numerous central valley and Sierra municipalities and local governments, including City of Sutter Creek, Kirkwood Valley PUD, City of Merced, Union Public Utilities District, and the City of Jackson to list a few (see Appendix B for a complete list).

Mark Hildebrand has participated in authoring several industry guidebooks including AWWA's *Manual M1 Principles of Water Rates, Fees and Charges,* and AWWA's *Water Rates, Fees, and the Legal Environment, and continues to actively serve on* AWWA's Rates and Charges Committee, which established best practices for rate setting across the industry. Please visit our website at hildebrandconsulting.com.

Mark Hildebrand is dedicated to providing clients with an exceptional level of service and responsiveness, to developing creative yet practical solutions to client needs, and to broadening understanding and facilitating consensus on complex issues. His strengths in consensus-building, clear communication, and his experience with utility rate-setting will be particularly valuable during this engagement.

Hildebrand Consulting provides high-quality and deeply experienced consulting services while remaining affordable, reliable, and flexible for our clients. Our level of engagement reflects our values; we provide independent consulting services while emphasizing integrity and loyalty.

At Hildebrand Consulting, we understand the importance of our work product quality. As a sole practitioner, all work is done by a seasoned consultant with decades of experience therefore the quality of our work starts from a strong position. We also understand the importance of remaining vigilant against the potential for human error. As a standard practice, Hildebrand Consulting engages our clients with a detailed review of our models, which both ensures work quality and fosters familiarity with our tools.

DISTRICT UNDERSTANDING

The Bear Valley Water District (District) was formed in 1968 to provide sewer services to the residents and businesses of Bear Valley, including Bear Valley Mountain Resort and the Lake Alpine Basin. The District provides sanitary sewer collection, treatment, and disposal for approximately 650 residential and commercial Equivalent Dwelling Units (EDUs). The District's service area is comprised of approximately 3000 acres located primarily north of California State Highway 4. The District's wastewater treatment and disposal facility (WWTF) is regulated by the Central Valley Regional Water Quality Control Board (Regional Board) under Waste Discharge Requirements.

The District's collection system includes approximately 83,000 linear feet or nearly 16 miles of gravity sewer collection pipeline and 8,560 linear feet or about 1.5 miles of force main pressured lines as well as 160 manholes and 4 pump stations. Wastewater from the collection system flows to the District's wastewater treatment plant located in the meadow on the south side of Highway 4. The District provides secondary treatment with a facility design flow of 0.5 million gallons per day while the system has safely received over 1.5 MGD during significant hydraulic events. Chlorinated effluent is stored in a 76 million gallon effluent polishing reservoir. During the irrigation season the polished effluent is disposed of through spray irrigation on spray fields. Polished effluent may also be discharged to surface waters as a means of effluent disposal.

PROJECT OBJECTIVES

The intent of this Study is to assess the District's existing rates and revenues and to recommend a rate structure to adequately operate and maintain the District's infrastructure while ensuring a safe level of service to District's customers. The proposed scope of work will develop a financial plan and sewer rates to achieve full cost recovery of expenses associated with the District's utility system while meeting all legal requirements, including Proposition 218. The financial plan will consider all operating and maintenance costs, debt service obligations, capital program needs, and financial reserve policies. We will ensure that sewer rates are based on equitable cost allocation methodologies and the rate structures are clear, understandable, and have a cost basis that meets the requirements of California state law and District policy objectives.

DISTRICT CURRENT RATES

The District bills for sewer service on a monthly basis. Residential customers pay a fixed fee based on the number of kitchens and bathroom. Commercial customers pay a volumetric rate based on water use during the previous year. The current minimum monthly charge for commercial customers is $85.81.

The District conducted a cost of service rate study in 2007 and a financial plan update in 2013. The basis for the current rates was adopted in 2014, although rates have been periodically adjustment for inflation since that time.

3. WORK PLAN APPROACH AND SCHEDULE

The following first describes our general approach to rate studies and then we provide a more detailed scope of work that may be appropriate for this study.

FINANCIAL PLANS

Hildebrand Consulting uses a financial planning approach with tools that essentially recreate the District's fund structure. In addition to capturing the District's current and forecasted operating costs and revenues, our process includes an interactive evaluation of the proposed capital spending budgets, and the rate impacts of alternative projects, costs, timing, and funding strategies. Our capital planning tool allows us to directly evaluate the financial impacts of capital spending decisions on rate payers.

COST OF SERVICE AND RATE STRUCTURE

We identify the most appropriate Prop 218-compliant cost-of-service methodologies based upon the District's stated objectives, available data, legal requirements, system configuration, and demand and usage characteristics. We then customize our cost-of-service model to employ methodologies and concepts that are best suited for the District. There is not a single absolute correct method for allocating costs among customers, but we do need to be transparent. Hildebrand Consulting will work with the District to understand the basis for the current allocation of costs and then determine the best course of action for allocating costs in future rates. We will work collaboratively with the District to understand the implications of any proposed changes to the allocation methodology and identify the cost-of-service approach that is the most equitable and least disruptive to rate payers.

LEGAL ENVIRONMENT FOR RATE SETTING

The legal landscape for utility rate setting in California has changed significantly over the past several years. While it has been over 25 years since Proposition 218 was passed by California voters in 1996, it has been the Court's interpretations of Prop 218 over the past 9 years that have dramatically altered the standards for rate setting. Fully understanding the myriad of court decisions is a nuanced endeavor.

While the District does have significant discretion over how to recover its costs through rates, the District also has a legal obligation to provide a transparent Administrative Record that clearly shows how cost-of-service requirements are being met. We believe that we can provide an administrative record that will protect the District and its ratepayers.

ADMINSTRATIVE RECORD

Much like a rate structure with a sound and clear methodology, Hildebrand Consulting emphasizes the importance of a clear and concise yet comprehensive Administrative Record. We are not, however, proposing to generate an excessively voluminous report. We believe that true transparency (and, hence, legal defensibility) is achieved when the Administrative Record is (1) organized as an easy reference document, (2) is clear enough to be understood by a layman, and (3) is comprehensive without including superfluous information. Mark Hildebrand has been providing such thorough and defensible Administrative Records to his utility client since well before the San Juan Capistrano case made it the "new standard".

SCOPE OF WORK

The following describes a specific scope of work that may be appropriate for this study based on our understanding of the District's needs and our scope of services for similar studies. We look forward to the opportunity to discuss the needs of the District in more detail.

Task 1. Project Kickoff and Data Collection

To initiate the study, we will submit a data request to the District. Collecting and reviewing data prior to a Kickoff Meeting will allow us to be more produce from the outset of the project. Once a majority of data has been received, we will review it in detail. This will include (but is not limited to) a review of historical financial statements, capital spending forecast, historical statements of revenue and expense, current year budgets, customer counts and classes, and historical water usage data. We will use this time to build on our existing understanding of the District's current financial requirements (such as bond covenants) and operational/capital improvement drivers.

Shortly thereafter, we will conduct a Project Kickoff Meeting with District staff to:

- ✓ Confirm study objectives and further explore project drivers such as revenue stability
- ✓ Confirm data requirements and discuss the data already received
- ✓ Finalize the project schedule, including key milestone dates and deliverables

Data Requirements

Detailed data from the utility billing system will be needed to analyze water usage characteristics and perform sewer rate calculations. Data to be extracted from the billing system will include customer name and account number, customer class, meter size, number of dwelling units, and a 12-month water use history. This data will be reviewed, sorted, organized, and analyzed to provide information on water usage characteristics by customer class. Analysis of metered water usage will be used in sewer rate calculations.

Follow-up calls with staff will be made to ensure full understanding of all data received.

Task 1 Meeting: Kickoff Meeting with staff

Task 1 Deliverable: Data request list

Task 2. 10-Year Financial Plan

In this task, our team will use a revenue sufficiency and financial planning model to update the District's **10-year Financial Plan** and ultimately recommend a **5-year schedule of rate adjustments.** Our financial planning model will be tailored to directly load the District's budget (for seamless updates) and project annual revenue and fee adjustments requirements. The financial plan will consider projected changes to operating expenses, alternative spending levels, operating reserves targets, debt service coverage ratios and other financial policies/goals that affect the revenue requirements of the funds. It will also consider historical operating expenses, growth projections and other trends that paint a complete financial picture and provide for informed decision-making. Our model's

dashboard clearly displays key scenarios and assumptions in a format that is easy to understand. This function, coupled with our ability to make real-time changes to the model, is particularly useful when engaging in interactive planning meetings.

Our team will work directly with District staff to understand cost drivers for the Financial Plan and consider cost uncertainties, such as future regulatory mandates. Our financial planning model provides a valuable capital planning tool which we will use to review the District's capital improvement program and evaluate the impacts of alternative projects, costs, timing, and funding sources.

We will examine the District's historical use of debt financing and assess the viability and appropriateness of issuing new debt. All financial scenarios will ensure that the District will maintain a proper balance of debt coverage and reserves over the study period.

Closely related to this analysis is the examination of cash reserve policies, which are fundamental to achieving financial stability and avoiding sudden fee adjustments in the face of changes to operating or capital needs. The District previously adopted a series of reserve policies which we will review and incorporate in the Financial Plan model. We will forecast the District's fund balances and incorporate these balances and alternative reserve policies into the interactive planning discussions regarding financial sustainability.

Task 2 Meeting:	Financial Planning Workshop with staff
Task 2 Deliverable:	Presentation materials

Task 3. Cost of Service and Rate Design

The financial model in Task 2 will determine the District's total annual sewer rate revenue requirement during the 10-year planning period. In Task 3 we will determine how those revenues will be recovered from ratepayers.

Cost of Service Analysis

The cost-of-service analysis serves as the foundation for sewer rates by allocating utility costs to cost categories and then to customer classes based on demand characteristics. Our cost of service and rate design study process is consistent with industry practice in the State of California, conforms to all State and Federal laws. Under California's Proposition 218 sewer rates must reflect a proportionate distribution of costs to each customer and customer class. We will review the basis of the cost-of-service analysis from the previous study and the District's current rate structure to determine if they continue to serve the District's objectives relating to revenue stability and affordability, while ensuring a fair and equitable distribution of costs and conformance to accepted industry practice and legal requirements.

Rate Structure

Upon completion of the cost-of-service analysis, the rate structure design will determine how the cost of providing service to each customer class will be recovered through sewer rates. The design of the sewer rate structure will reflect rate-setting objectives that will be identified and articulated in meetings with staff and Board representatives. Factors to be considered in identifying and selecting potential sewer rate structures will include:

- Potential demand variability of water demand and the implications for revenue volatility
- Views and opinions expressed by staff and Board members regarding rate setting objectives and rate structure options
- Any constraints presented by the utility billing system and/or data limitations

Task 4. Board Workshops and Presentations

In addition to the multiple staff meetings and workshops described above, we assume there will be two (2) presentations to the Board of Directors. Additional meetings can and should be added if warranted.

Board Meeting 1: In this first meeting with the Board, we will present the final study recommendations and seek Board direction to staff to send the Proposition 218 notifications to customers. We will present the recommended sewer rate structure and schedules for a five-year period, bill impacts and sensitivity analysis, and discuss of public information efforts during the rate approval process.

Board Meeting 2: This final meeting is the Public Hearing with the Board to adopt the final study recommendations and five-year rate plan.

Meeting materials will be prepared for each meeting. The meetings will include a formal presentation and an opportunity for questions, comments, and discussion. Given the recent format of all public meetings, it is assumed that meetings will be held via video conference.

Task 4 Meetings:	- Two (2) Board Meetings (including the Public Hearing)
Task 4 Deliverables:	- Presentations as needed, including rate survey results

Task 5. Deliverables: Report and 218 Notice

Administrative Draft, Draft, and Final Report

We will deliver an administrative draft report for staff review. Following acceptance of the draft report by staff, a final report will be submitted. The report will include all elements of the study. The report will include:

a. A brief physical description of the sewer system
b. Overview of financial operations for the last five years
c. The District's forecast of capital improvement program needs for the next ten years
d. The proposed 10-year Financial Plan
e. A transparent explanation of the basis for cost allocation to customer classes
f. A clear explanation of the cost-basis for the respective rate structures
g. A 5-year schedule of proposed sewer rates

h. A list of all assumptions and data supporting the study's recommendations

218 Notification

We will provide guidance and advice to staff to ensure compliance with the rate adoption process required by Proposition 218. We will work with District staff to draft the contents of the required Proposition 218 notice, which will need to be mailed to property owners at least 45 days prior to a public hearing. We assume that the District will work with a printing service to finalize the formatting and mail the Proposition 218 notification.

Task 5 Deliverables:	-Administrative Draft, Draft, and Final Study Report -Draft Proposition 218 Notification Letter

Price Proposal

The following table provides a summary of the hours required to complete the above scope of work. Mr. Hildebrand's hourly rate is $230. We look forward to the opportunity to refine the scope of services and level of effort to meet the District's needs.

		Total Hours	Cost by Task
Task 1	Project Kickoff and Data Collection	9	$2,070
Task 2	Financial Plan	30	$6,900
Task 3	Cost of Service and Rate Design	38	$8,740
Task 4	Board Workshops and Presentations	12	$2,760
Task 5	Deliverables: Report & 218 Notice	40	$9,200
	Total Hours:	**129**	
	Direct & Travel Expenses:		**$0**
	Proposed Fee:		**$29,670**
	Cost per Additional Board Meeting		$1,380

SCHEDULE

We will work with District staff to develop a schedule that meets the District's needs. Due to the requirements of Proposition 218 (the 45-day noticing period), the typical timeline requires a total of 4 – 5 months depending on the availability of financial data and the level of engagement with the Board and stakeholders.

4. RESUME

MARK HILDEBRAND

FOUNDER AND PRINCIPAL

HILDEBRAND CONSULTING

Owner and founder of Hildebrand Consulting, LLC., Mark Hildebrand is a finance and management consultant to local governments who bridges the disciplines of financial analysis and organizational effectiveness. He has performed scores of financial plans, fee studies, cost allocation plans, and water and wastewater rate studies. Mr. Hildebrand is an expert in Proposition 218 and California's legal requirements regarding utility finances and cost allocation principles. He has been published by the AWWA Journal for articles addressing the challenges of utility service pricing in California.

AREA OF EXPERTISE

» Financial Planning
» Utility Rate/Fee Studies
»Strategic Business Planning
» Capital Facility Financing
» Alternative Project Delivery

PROFESSIONAL HISTORY

» Hildebrand Consulting, LLC., Owner, 2018 - present
» MWH / STANTEC Consulting, Inc., Principal, 2014-2018
» ARCADIS / Malcom Pirnie, Senior Consultant, 2004 - 2014
» Clipper Windpower, 2003 – 2004, Researcher
» IT Corp, Analyst, 2000 – 2002
» Peace Corps, 1998 – 2000, Madagascar

EDUCATION

» B.S., Ecology, University of California, Berkeley, 1998
» M.S., Management, University of California, Santa Barbara, 2004

CERTIFICATION

» Change Management (PROSCI)
» Certified Document Technologist (DBIA)

PUBLICATIONS & PRESENTATIONS

"M1 Manual – Principal of Water Rates, Fees and Charges" Editor and contributing author

"Conservation Rates Made Legal: Water Budgets and California Law," Journal of the American Water Works Association, Vol. 101, No. 4, April 2009 (lead author).

"Water Rates, Fees, and the Legal Environment," American Water Works Association, 2nd Edition, 2010. ISBN 978-1-58321-796-2 (contributing editor).

"Affording Conservation Revenue Challenges Facing Utilities," Proceedings, International City Management Association, October 17-20, 2010. (Co-presenter).

"California Finance Law: Water Budgets and California Law," Proceedings, Utility Management Conference, February 17-21, 2009 (Presenter).

"Defining Latest Trends in Conservation Rate Design: Creating a Nexus Between Cost of Service Principles and Rate Structure," Utility Management Conference, February 17-20, 2009 (Co-presenter).

SAMPLE PROJECT EXPERIENCE

Mark Hildebrand has conducted over 70 rate studies in California. The following is a sample of some of those projects.

Coachella Valley WD, Comprehensive Rate Study

Project Manager for a multifaceted rate study to a wholesale State Water Contractor that provides domestic water, sewer, recycled water, canal (irrigation) water, and replenishment program services.

City of Fullerton, Water Rate Study

Current Project Manager in delivering a comprehensive water cost-of-service analysis and rate design project to address the City's epidemic of water main ruptures. Spent extensive time with a citizen advisory committee in order to determine the proper level of capital reinvestment in the City's underground infrastructure.

City of Santa Ana, Comprehensive Water, Sewer and Recycled Water Rate Study

Project Manager in delivering a comprehensive cost-of-service analysis and rate design project to address significant reductions in water sales. Examined a variety of scenarios to provide a cost-basis for tiered rates, consistent with the requirements of Prop 218.

Soquel Creek Water District, Santa Cruz County

Project Manager in delivering a comprehensive water cost-of-service analysis and rate design project to address significant reductions in water sales. Examined a variety of scenarios to provide a cost-basis for tiered rates, consistent with the requirements of Prop 218.

Sewer Rate Study, Ross Valley Sanitation District

Delivering a comprehensive wastewater financial plan, cost-of-service analysis, and rate design project for this relatively small special district in Marin California. The scope of work may include a consolidation assessment of two local systems.

Water and Sewer Rate Studies, Santa Rosa, CA –

Performing rate studies for Santa Rosa Water, which include detailed cost of service analyses, refinement of current rate structures, development of a five- and ten-year financial plans, and review of financial policies and practices. The study is complicated by the effects of the recent Tubbs Fire.

Water Rate Study, Casitas Municipal Water District

Project Manager in delivering a comprehensive water financial plan, cost-of-service analysis, and rate design project for this mixed agricultural community. One of the project challenges was the California drought that ended in 2017 for most of the state but persisted hydraulically isolation community. The scope included numerous Board workshops.

Indian Wells Valley WD, Water Rate Study

Current Project Manager for a comprehensive water rate study financial plan update that will ensure that rates are sufficient and consistent with the requirements of Proposition 218. The study includes fire service charges, pumping elevation charges, and bulk rates. The study is examining SGMA costs and funding mechanisms for the lead agency of their GSA.

Indio Water Authority, Cost Allocation Plan & Fee Study

Lead consultant for a cost allocation plan project in association with a Comprehensive Service Fee Study. The project developed a comprehensive list of Service Fees that were set at levels to reflect the true cost of providing the services and in compliance with OMB Circular A87. The scope included identification of new Service Fees and calculation of the maximum-justifiable rates. This study also examined anticipated GSP costs and rate structures.

Moulton Niguel WD Water/Sewer Rate Study

Project Manager in delivering a water, sewer and recycled water financial plan, cost-of-service analysis, and water budget-based rate design project. Work included conforming large volumes of billing data for water budget-based rates, developing financial models, debt, and bond issuance evaluation (financial strategy), long term financial forecasting, drought rate policies.

5. REFERENCES

Mark Hildebrand have been conducting sewer rate studies in California for decades, including scores of projects that are similar in scope to the project being requested by the District. The following are some references for projects that Mr. Hildebrand has performed in the recent past.

City of Santa Rosa – Water, Recycled Water and Sewer Rate Study

Client: Kimberly Zunino, Deputy Director (707) 543-3960; kzunino@srcity.org

City of Cloverdale – Water and Wastewater Rate Study

Client: David Kelley, City Manager (707) 894-1710 dkelley@ci.cloverdale.ca.us

City of Santa Ana – Water and Sewer Rate Study

Client: Rudy Rosas, Public Works Director (714) 647-3379 rrosas@santa-ana.org

City of Merced – Water Rate Study

Client: Ken Elwin, Public Works Director (209) 385-6803 elwink@cityofmerced.com

Ross Valley Sanitary District – Sewer Rate and Capacity Fee Study

Client: Felicia Newhouse, Business & Administrative Manager (415) 870-9761 fnewhouse@rvsd.org

Kirkwood Meadows PUD – Water and Sewer Rate Study

Client: Erik Christeson, General Manager (209) 256-0394 echristeson@kmpud.com

City of Sutter Creek – Sewer Rate Study

Client: Amy Gedney, City Manager (209) 267-5647 x 284 agedney@cityofsuttercreek.org

City of Jackson – Rate Consulting

Client: Yvonne Kimball, City Manager (209) 682-5111 ykimball@ci.jackson.ca.us

6. CALIFORNIA UTILITY RATE STUDY CLIENTS

		Financial Planning	Cost of Service	Rate Structure	Wholesale Rates	Capacity Charges	User Fees	Cost Allocation Planning	Public Engagement	Privatization	Other
CA	Alameda (City)	●	●	●		●					
CA	Bakersfield (City)	●	●								
CA	Berkeley (City)	●						●			
CA	Casitas Municipal Water District	●	●	●				●	●		
CA	Central Marin Sanitation District										●
CA	Coachella Valley Water District	●	●	●	●	●			●		
CA	Cotati (City)	●									
CA	Coachella (City)	●	●	●		●	●	●	●		
CA	Corona (City)	●	●	●					●		
CA	Delta Stewardship Council	●									●
CA	Fullerton (City)	●	●	●					●		
CA	Greenfield (City)	●	●	●					●		
CA	Healdsburg (City)		●	●							●
CA	Huntington Beach (City)	●	●	●		●	●	●	●		
CA	Indian Wells Valley Water District	●	●	●					●		
CA	Indio Water Authority	●	●	●		●	●	●	●		
CA	Jackson (City)	●	●	●				●			
CA	Merced (City)	●	●	●					●		
CA	Mesa Water										●
CA	Mill Valley (City)		●		●			●			●
CA	Moulton Niguel Water District	●	●	●					●		
CA	MWD of Orange County				●						●
CA	Norco (City)	●	●	●			●	●			
CA	North Marin Water District	●	●	●	●			●	●		
CA	Oakland (City)	●						●			
CA	Ontario (City)	●	●					●			
CA	Port of Oakland										●
CA	Pomona (City)	●	●	●			●	●	●		
CA	Presidio Trust of San Francisco									●	●
CA	Ridgecrest (City)	●	●	●		●	●	●	●		
CA	Ross Valley Sanitary District	●	●	●	●					●	●
CA	San Diego (City)	●	●	●							
CA	San Diego County Water Authority	●									●
CA	San Francisco PUC										●
CA	San Jose (City)										●
CA	San Juan Water District (Sacramento)					●	●				
CA	Sanitation Agency of Southern Marin										
CA	Santa Ana (City)	●	●	●				●	●		
CA	Santa Clara Valley Water District	●									●
CA	Santa Rosa (City)	●	●	●							
CA	Soquel Creek Water District	●	●	●		●			●		
CA	Sutter Creek (City)	●	●	●	●				●		
CA	Ukiah (City)	●	●	●	●			●	●		●
CA	Ukiah Valley Sanitary District	●	●	●	●			●	●		●

32605 Temecula Parkway, Suite 100
Temecula, CA 92592
Toll free: 800.676.7516

nbsgov.com

August 26, 2021

Mr. Jeff Gouveia, General Manager
Bear Valley Water District
Via email at Jeff.Gouveia@bvwd.ca.gov

Subject: **Proposal for a Sewer Rate Study**

Dear Mr. Gouveia,

Per your request, NBS has prepared this letter proposal to provide a sewer rate study for the Bear Valley Water District (District) that would be sufficient to adopt new rates in compliance with California's Proposition 218 requirements. Based on our discussion, we understand that this study will update the sewer rates using the existing rate structure. The study background and tasks are outlined below

Background – The District is primarily a residential development of about 500 residential customers and 15 commercial accounts. Due to declining commercial revenues and changes in the customer base over the last few years, the District needs to re-evaluate its revenue requirements and ensure there will be sufficient rate revenues to fully fund the District's operating and capital infrastructure needs going forward.

Study Overview – Figure 1 illustrates the basic rate study methodology followed in this study.

Figure 1. Components of a Comprehensive Rate Study

Step 1: Financial Plan/ Revenue Requirements – Compares current sources and uses of funds, and determines the revenue needed from rates and projected rate adjustments.

Step 2: Cost-of-Service Analysis – Proportionately allocates the revenue requirements to the customer classes in compliance with industry standards and State Law.

Step 3: Rate Design - Considers what rate structure will best meet the utilities' need to collect rate revenue from each customer class.

The study will involve developing customer account and budget data that will provide the basis for the rate calculations. The financial plan will provide a five-year projection of the net revenue requirements that will be recovered through sewer rates. The rate design assumes that NBS will use the existing rate structure based on fixed charges.

INDIVIDUAL TASKS

Task 1 – Kick-off Meeting and Data Collection

NBS will provide the District with a data request and hold a kickoff meeting (remotely by videoconference or phone) to review and discuss the data requirements for the study, scope of work, study timeline, and ensure there is a clear understanding of how the study objectives will be met.

Task 2 – Financial Plan

NBS will prepare a financial plan that summarize revenues, expenditures, reserves, and will identify the net revenue requirements – that is, the revenue that must be collected from customer charges.

Task deliverables will include:

- A 10-year financial projection model.
- Summary of current and projected net revenue requirements.
- Updated year-end reserve fund levels.

Task 3 – Cost of Service Analysis

Using the net revenue requirements developed in Task 2, NBS will equitably allocate costs to customers based on cost-of-service principles that comply with Prop 218. Using the level of detail in the District's budgets, NBS will evaluate how costs should be allocated to various cost components and types of customers, such as estimated flow (volume), strength (BOD and TSS), and customer related costs, and to residential vs. commercial customers. Since the District does not have access to water consumption data, we will assume that all residential customers generate the average amount of effluent. Any available consumption data available for commercial customers, or existing estimates of their individual equivalent dwelling units (EDUs), will be used to calculate commerical rates.

Task 4 – Rate Design Analysis

The District's current rate design uses fixed charges for both residential and commercial customers; NBS will use this same rate design and update rates based on the cost-of-service analysis (Task 3).

Comparison of Customer Bills – NBS will prepare rate tables and bill comparisons for residential and commercial customers that illustrate the differences in their current vs. proposed bills.

Task 5 – Provide Rate Model

NBS will provide the District with the Excel-based sewer rate model prepared as a part of this rate study. The rate model will consist of the study components, such as the financial plan, the cost-of-service worksheets, and the rate design calculations. The worksheets in this model are not "proprietary" or "black-box" worksheets that can be difficult for non-consultants to understand. Instead, they focus on transparency and simplicity so that District staff can follow, step-by-step, the process of taking input data and calculating the proposed rates.

Task 6 – Prepare Written Study Report

NBS will prepare draft and final study reports and work with District staff to incorporate their comments prior to public release. Key assumptions, methodologies, and factors affecting the development of proposed rates will be highlighted with charts and graphs where they are helpful. The more technical aspects of the study, particularly the multiple tables documenting the calculations and sources of data, will be separately provided in a technical appendix.

Task 7 – Meetings and Presentations

NBS will talk with District staff on as needed regarding data collection, analysis, initial results, and to answer questions. We will plan to attend the public hearing when rates are adopted.

Task 8 – Prop 218 Assistance

NBS will provide the proposed Prop 218 rate tables and review the District's language included in the Prop 218 notice. The District should also have legal counsel review the notices for compliance with the legal provisions of Prop 218, wording related to pass-throughs, etc. We assume that the District will be responsible for mailing the Prop 218 notices and conducting the public hearings, although NBS will assist District staff by answering questions about the study results.

District's Responsibilities

We assume the District will furnish NBS with the necessary and available information as requested. Ideally, the District will promptly respond to NBS' requests for reviews and approvals of its work. The District understands and agrees that NBS can rely on the information, data and documents supplied to NBS by the District. NBS assumes that such data is accurate and that NBS will not independently confirm the accuracy of this information.

NBS PROJECT TEAM

GREG CLUMPNER, PROJECT MANAGER

Role and Responsibilities: Greg Clumpner will manage the day-to-day technical and administrative aspects of the study and work closely with the District's project manager to discuss and review the overall approach. Greg will be the primary point of contact for District staff, and will be responsible for delivering work product, attending the public presentation for this engagement.

Work Experience: Greg Clumpner has a 40-year professional career that has focused on cost-of-service rate studies for municipal water, sewer, recycled water, and solid waste agencies. In particular, he has extensive experience at national engineering firms (CH2M Hill and HDR) with expansion and capital improvements for water and sewer utilities. He also created and managed Foresight Consulting where, for six years, his practice focused on water and sewer rate analyses. He has completed 500+ similar studies during his career. Additionally, since Greg works with Prop 218 legal counsel on an on-going basis, he knows the general legal constraints as well as when to solicit critical legal input to ensure alternatives will meet specific legal requirements.

JORDAN TAYLOR, UTILITY RATE CONSULTANT

Role and Responsibilities: Jordan Taylor will support the project team in performing large-scale data analysis and validation, data input, developing the financial plans, and cost-of-service analyses.

Work Experience: Jordan Taylor has a Bachelor of Science degree in Chemistry and a master's degree in Business Administration with an emphasis in Finance. She offers more than 10 years of accounting experience along with extensive knowledge of financial analysis and budget planning.

ALICE BOU, UTILITY RATE CONSULTANT

Role and Responsibilities: Alice Bou will support the project team in performing similar duties to those of Jordan: large scale data analysis and validation, data input, financial plans, and cost-of-service analyses. As needed, she will facilitate data collection and help move the technical analyses forward on the agreed-upon timeline for completion.

Work Experience: Alice Bou has a Bachelor of Arts degree and offers more than two decades of experience working in accounting and financial management performing data analysis, variance analysis, budgeting and forecasting, financial modeling, and managerial reporting.

COST PROPOSAL

NBS will provide the services outlined in the tasks above for a lump sum of $10,000, including attending one public meeting/hearing remotely; attendance at this meeting in-person would be an additional cost of $1,000.

Please let me know if you have any questions or would like to discuss the proposal in more detail. You can reach me at 530.297.5856 or gclumpner@nbsgov.com.

Sincerely,

Greg Clumpner
Director

bear valley
WATER DISTRICT
PO Box 5027, Bear Valley, CA 95223
P 209.753.2112 • F 209.753.6267 • BEARVALLEYWATER.ORG

JAMES BISSELL
STEFANIYA BECKING
GUNNAR THORDARSON
JOHN BOYLE

PROPOSITION 218 NOTIFICATION

NOTICE TO PROPERTY OWNERS OF PUBLIC HEARING ON PROPOSED CHANGES TO SEWER RATES

Hearing Date & Time: May 24, 2014, 10 AM

Hearing Location: Perry Walther Building, 325 Creekside Drive, Bear Valley, CA 95223

Basis of Proposed Rates

The Bear Valley Water District ("BVWD" or "District") has prepared a three-year budget to plan for annual, recurring expenses as well as periodic expenses associated with its NPDES discharge permit, which is up for renewal in 2016.

The District Engineer has finalized a report and supporting memorandum dated August 7, 2013 (hereinafter collectively "Rate Report") that recommends sewer rates that meet the revenue requirements of the District and addresses the unpredictability and variability of charges for its commercial customers. The Rate Report can be viewed at www.bearvalleywater.org and is also on file and available for public review at the District office at the Bear Valley Water District, 441 Creekside Drive, Bear Valley, CA 95223.

New Sewer Rates

The rate structure for residential users is proposed to change from a progressive rate to a flat fee in the amount of $90.37 per month for all residential users. The proposed commercial users' rate system will change from a calculation that includes residential use to a fixed cost of $0.064 for each gallon of water used, with a minimum monthly charge of $80.43, representing the fixed cost to be connected to the BVWD system.

Why is a Rate Adjustment Needed?

In 2011, the District's NPDES discharge permit was renewed without requiring the construction of a costly tertiary treatment facility. However, the NPDES permit still requires regular testing, reporting and potential mitigation requirements over its five-year term. In 2016, the District will have to go through the NPDES permit renewal process again, re-making its case that tertiary treatment is not needed, with attendant engineering and legal costs. The current sewer rates charged by the District will not cover the District's costs to operate, maintain and replace aging infrastructure and service debt on the existing wastewater system and provide additional funds for NPDES requirements and renewal, even with the District's plan to offset the additional expenses with $250,000 in operating reserves.

Why is the Residential Rate Structure Changing?

Since there was no practical way of determining sewer use for each residence, BVWD historically charged for sewer services on the assumption that sewer requirements were proportional to the number of bathrooms and kitchens in a home. The more bathrooms and kitchens a home had, the greater the presumed use, and the higher the fee. Currently, rates vary from a low of $76.50/month to a high of $252.45/month. Since water meters were installed by Lake Alpine Water Company for much (but not all) of Bear Valley in 2007, the District now has access to actual data using water meter information. That data reflects that the number of bathrooms and kitchens in a home is not a reliable predictor of how much water/sewer services it uses, and BVWD's practice of billing according to number of bathrooms is not a fair measure of load on the system.

Further, based on the District Engineer's review, approximately 89% of BVWD's expenses are fixed ("89% Fixed Costs"), meaning that most expenses are incurred to have a system in place and operational, irrespective of how heavily it's used. Thus, variable sewer usage only makes up 11% of the costs of providing service to District customers.

The proposed rate structure addresses these realities by establishing a single fixed residential rate on the basis that (1) every user should share equally in the 89% Fixed Cost, and (2) there is no practical way to assign the 11% sewer usage cost on a residential ratepayer-by-ratepayer basis. This will result in an increase for ratepayers that are currently charged $229.50/quarter and a decrease for other residential ratepayers.

Why is a Commercial Rate Adjustment Needed?

Commercial rates have been historically calculated based on two factors: (1) the amount of water used by a business in the preceding year and (2) the relationship of a business' water use to average residential use. This calculation creates a great deal of uncertainty for local businesses because of the residential water use portion of the calculation.

For example, if a business uses 100,000 gallons of water every year, it might be billed at 5 times the residential rate one year and 10 times the residential rate the next year, dependent entirely on whether residences averaged 20,000 gallons per household or 10,000 gallons per household. If a business' water use declines, its sewer bill could still go up, depending on the average amount of water used by residences.

After reviewing the District's three-year budget, the District Engineer prepared a calculation of $0.064 cost-per-gallon to process sewage. Since water usage information for local businesses is readily available, the proposed commercial sewer rate for local businesses will be calculated at a rate of $0.064 times the number of gallons of water used by a specific business, with no reference to average residential water use. Currently the water usage for the preceding fiscal year is used for each commercial user.

Because 89% of the District's costs are fixed, the minimum monthly charge for any commercial customer connected to the system, even with no water usage, will be $80.48, the same Fixed Cost assigned to residential customers. Thus, if the amount of water used multiplied by $0.064 per gallon is less than $80.48, then the user shall pay the minimum monthly charge of $80.48, or $965.76 per year.

The current minimum annual charge for commercial customers is $0 (for non-use) and $918 for all other commercial ratepayers. This proposed rate structure, commonly used in other districts, will provide more predictability to commercial ratepayers' sewer rates because it doesn't include an annual reference to residential use.

Proposed Sewer Rates

	Current	Proposed Rates 2014-15and thereafter[1]
Residential	$76.50 - $252.45 [2] per month	$90.37 per month
Commercial	$0.074 per gal.	$0.064 per gal.[3]

[1] The new sewer rate will be effective on July 1, 2014. Starting 2016/2017 and the four years thereafter, the above rates may be adjusted annually by the percentage increase, if any, of the United States Department of Labor All Item Consumer Price Index for All Urban Consumers (CPI-U) – (1982-84 Base 100).
[2] $76.50 is a minimum flat rate for up to3 bathrooms/kitchens. Each additional bathroom or kitchen is an additional $25.50/month.
[3] Under the proposed rate change, the commercial minimum monthly charge will be $80.48 which is equal to residential "89% Fixed Costs". The commercial customer's charge will be their water usage at $0.064 per gallon or the minimum monthly charge, whichever is greater, which is currently based on the preceeding fiscal year's water usage.

Impact on Your Bill

Single family residences, condos and Lake Alpine permittees currently pay fixed, but progressive, sewer charges ranging from $76.50 per month to $252.45[2] per month. Under the proposed rates, all residential customers will pay a total of $90.37 per month beginning July 1, 2014. Commercial users currently pay a total of $0.074 per gallon for sewer service, with a minimum fee of $0 for non-users and $918 per year for all others. Under the proposed rate, commercial users will pay $0.064 per gallon of water used/sewage discharged, with a minimum monthly rate of $80.48 to be connected to the system. The District currently bills customers on a quarterly basis which it may change by ordinance.

Compliance with Proposition 218

In 1996, California voters approved Proposition 218, which amended the state constitution as it relates to the passage of property-related fees. "Prop 218" requires that local governments follow a strictly defined process for setting fees such as water or sewer bills. Generally speaking, the District must (1) inform rate- payers that a proposed rate increase is being considered (this notice), (2) clearly demonstrate the basis on which these fees are calculated (this letter and the Rate Report), and (3) hold a public hearing at least 45 days after noticing property owners at which time the District hears all protests to the rate increase. These rates are subject to "majority protest" meaning they **cannot be passed** if a majority of property owners (or renters/lessees, where the renter/lessee is financially responsible for the bill) impacted by the rate change submit written and signed protests opposing the increase.

To Protest These Changes

If you have questions or comments about the proposed rate changes or wish to protest, you may:

Address the Board of Directors: Attend the Public Hearing on May 24, 2014, at 10 AM at the Perry Walther Building in Bear Valley, CA.

Write: Written protests against the proposed rate change must be received by the District by the close of the public hearing on May 24, 2014 and must identify an owner of the property, the parcel (APN) number or address of the affected property, and include the original signature of an owner or renter/lessee (if they are financially responsible for the bill) of the parcel. Only one objection per parcel will be counted in calculating a majority protest to the proposed rate change.

If the District receives written protests against the proposed rates by a majority of the affected property owners/renters/lessees prior to the end of the hearing, the District cannot approve the change.

Written protests may be sent to:

Bear Valley Water District,
PO Box 5027, Bear Valley, CA 95223

Please note that e-mail and photo copies of signed protests will not be accepted.

Jeff Gouveia

From: Jardine, Casey -FS <casey.jardine@usda.gov>
Sent: Monday, August 2, 2021 3:02 PM
To: Jeff Gouveia
Cc: Hughes, Timothy - FS
Subject: Lake Alpine Recreation Area

Hi Jeff,
Just wanted to reach out and give you an update on our vault toilet project:

Lake Alpine CG and Boat Ramp – Contract delayed until FY 22, looking at May or September of 2022 for the replacements.
Silvertip CG – These are bundled with an SSZ combined project as the zone #2 for FY23 WO GAOA consideration. In the next week the zone list will be combined with the other four zones for the WO submittal. We won't know if this makes the cut until sometime in September so I have to assume we would still pay fees through 23 (and beyond), but not to pump since sewage gravity flows from Silvertip to the BVWD sewage treatment plant.

We also wanted to let you know we are currently out with a new Lake Alpine Concessionaire prospectus. You may be receiving calls from potential concessionaires applicants regarding fees.

Please let us know if you have any questions.

Take Care,
Casey

Casey Jardine
Public Service Staff Officer
Forest Service
Stanislaus National Forest, Calaveras Ranger District
p: 209-795-1381
c: 209-283-4024
casey.jardine@usda.gov
5519 Highway 4 / po box 500
Hathaway Pines, CA 95247
www.fs.fed.us
Caring for the land and serving people

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PROMISSORY NOTE

Principal	Loan Date	Maturity	Loan No	Call / Coll	Account	Officer	Initials
$636,373.38	03-07-2013	03-25-2028	10-013407-33	4	BAA0102	898	

References in the boxes above are for Lender's use only and do not limit the applicability of this document to any particular loan or item.
Any item above containing "****" has been omitted due to text length limitations.

Borrower: BEAR VALLEY WATER DISTRICT
P O BOX 5027
BEAR VALLEY, CA 95223

Lender: Farmers & Merchants Bank of Central California
LOAN CENTER
116 WEST PINE STREET
P. O. BOX 3000
LODI, CA 95241-1902
(800) 888-1498

Principal Amount: $636,373.38 **Date of Note: March 7, 2013**

PROMISE TO PAY. BEAR VALLEY WATER DISTRICT ("Borrower") promises to pay to Farmers & Merchants Bank of Central California ("Lender"), or order, in lawful money of the United States of America, the principal amount of Six Hundred Thirty-six Thousand Three Hundred Seventy-three & 38/100 Dollars ($636,373.38), together with interest on the unpaid principal balance from March 7, 2013, calculated as described in the "INTEREST CALCULATION METHOD" paragraph using an interest rate of 3.875%, until paid in full. The interest rate may change under the terms and conditions of the "INTEREST AFTER DEFAULT" section.

PAYMENT. Borrower will pay this loan in 180 payments of $4,694.80 each payment. Borrower's first payment is due April 25, 2013, and all subsequent payments are due on the same day of each month after that. Borrower's final payment will be due on March 25, 2028, and will be for all principal and all accrued interest not yet paid. Payments include principal and interest. Unless otherwise agreed or required by applicable law, payments will be applied to the loan as described in the "HOW YOUR PAYMENTS ARE APPLIED" section. Borrower will pay Lender at Lender's address shown above or at such other place as Lender may designate in writing.

INTEREST CALCULATION METHOD. Interest on this Note is computed on a 365/360 basis; that is, by applying the ratio of the interest rate over a year of 360 days, multiplied by the outstanding principal balance, multiplied by the actual number of days the principal balance is outstanding. All interest payable under this Note is computed using this method. This calculation method results in a higher effective interest rate than the numeric interest rate stated in this Note.

PREPAYMENT FEE; MINIMUM INTEREST CHARGE. Borrower agrees that all loan fees and other prepaid finance charges are earned fully as of the date of the loan and will not be subject to refund upon early payment (whether voluntary or as a result of default), except as otherwise required by law. In any event, even upon full prepayment of this Note, Borrower understands that Lender is entitled to a minimum interest charge of $100.00. Upon prepayment of this Note, Lender is entitled to the following prepayment fee: (a) Five percent (5%) of the outstanding principal balance if said payment is received during the first three (3) loan years; (b) Four percent (4%) of the outstanding principal balance if said payment is received during the fourth, fifth or sixth loan years; (c) Three percent (3%) of the outstanding principal balance if said payment is received during the seventh, eighth or ninth loan years; (d) Two percent (2%) of the outstanding principal balance if said payment is received during the tenth, eleventh or twelfth loan years; and (e) One percent (1%) of the outstanding principal balance if said payment is received during the thirteenth, fourteenth or fifteenth loan years (the "Prepayment Fee"). The Prepayment Fee shall also be due upon any event where the Note is fully or partially satisfied in any manner, other than by making scheduled payments required hereunder or otherwise as provided in the loan documents, whether voluntary or involuntary, prior to its maturity date (excluding the receipt of insurance or condemnation proceeds), including, but not limited to, any payment after default, any payment after the maturity date is accelerated or payment by any sale under court order, trustee's sale or deed in lieu thereof, or payment by sale or other method under any bankruptcy or insolvency proceeding. No partial prepayments may be made during the prepayment period, except that Borrower may within any loan year pay up to ten percent (10%) of the outstanding principal balance owed ("Allowance") earlier than it is due without a Prepayment Fee. If Borrower pays more than the Allowance within a loan year, as determined by the anniversary date, earlier than it is due, the Prepayment Fee will be due on the amount of principal prepaid in excess of the Allowance. The Borrower may pay off the loan without a Prepayment Fee at any time during the thirty (30) day period prior to the maturity date or the expiry of the Prepayment Fee period. For purposes of determining which loan year the prepayment is received, Lender will use the anniversary date of the loan as the first day of a loan year. For purposes of determining the Allowance, Lender will use the commitment amount as of anniversary date hereof. For the purposes of determining the current commitment, Lender will combine the outstanding principal and any unused amounts which remain available to Borrower. Other than Borrower's obligation to pay any minimum interest charge and prepayment fee, Borrower may pay all or a portion of the amount owed earlier than it is due. Early payments will not, unless agreed to by Lender in writing, relieve Borrower of Borrower's obligation to continue to make payments under the payment schedule. Rather, early payments will reduce the principal balance due and may result in Borrower's making fewer payments. Borrower agrees not to send Lender payments marked "paid in full", "without recourse", or similar language. If Borrower sends such a payment, Lender may accept it without losing any of Lender's rights under this Note, and Borrower will remain obligated to pay any further amount owed to Lender. All written communications concerning disputed amounts, including any check or other payment instrument that indicates that the payment constitutes "payment in full" of the amount owed or that is tendered with other conditions or limitations or as full satisfaction of a disputed amount must be mailed or delivered to: Farmers & Merchants Bank of Central California, LOAN CENTER, 116 WEST PINE STREET, P. O. BOX 3000, LODI, CA 95241-1902.

LATE CHARGE. If a payment is 15 days or more late, Borrower will be charged **5.000% of the regularly scheduled payment or $100.00, whichever is less.**

INTEREST AFTER DEFAULT. Upon default, the interest rate on this Note shall, if permitted under applicable law, immediately increase by 4.000 percentage points.

DEFAULT. Each of the following shall constitute an event of default ("Event of Default") under this Note:

Payment Default. Borrower fails to make any payment when due under this Note.

Other Defaults. Borrower fails to comply with or to perform any other term, obligation, covenant or condition contained in this Note or in any of the related documents or to comply with or to perform any term, obligation, covenant or condition contained in any other agreement between Lender and Borrower.

Default in Favor of Third Parties. Borrower or any Grantor defaults under any loan, extension of credit, security agreement, purchase or sales agreement, or any other agreement, in favor of any other creditor or person that may materially affect any of Borrower's property or Borrower's ability to repay this Note or perform Borrower's obligations under this Note or any of the related documents.

False Statements. Any warranty, representation or statement made or furnished to Lender by Borrower or on Borrower's behalf under this Note or the related documents is false or misleading in any material respect, either now or at the time made or furnished or becomes false or misleading at any time thereafter.

AGENDA ITEM

DATE: OCTOBER 21, 2019

TO: BVWD BOARD OF DIRECTORS

FROM: JEFF GOUVEIA, DISTRICT GENERAL MANAGER

RE: SURPLUS PERSONAL PROPERTY POLICY

BACKGROUND AND DISCUSSION:

As staff forecast various items of "personal property" to become "surplus" in the coming years as result of reaching the end of useful life, including generators, comminutors, snowmobiles, snow blowers, service vehicles, all-terrain vehicles, etc. the attached policy has been prepared to codify the policy for disposition as well as determine the threshold when Board level involvement shall be triggered regarding the method of disposal of District-owned surplus personal property.

Pursuant to Government Code Sections 25500 – 25509, with respect to District property considered scrap and/or surplus, the Board of Directors may "employ a purchasing agent and such assistants as are necessary" to "sell, lease, or dispose of the personal property of any special district, and pay the proceeds into the treasury of the district, or, if an exchange or trade-in is made, return the proceeds to the special district."

In accordance with California Water Code Section 35604, as a California Water District, the District "may for a valuable consideration lease, sell, or contract for the sale of any property of the district whenever it may be necessary, advisable, or for the best interests of the district." Whenever the General Manager, if acting as the Purchasing Agent of the District, determines that such items are no longer needed by the District, according to the draft policy attached, the Purchasing Agent shall determine the estimated value of any surplus property. If the value is under a certain value as established through this policy, the Purchasing Agent may simply dispose of the property including, but not limited to, sending it to a landfill. However, if the estimated value of the surplus property is in excess of a certain value as established by this policy, the Board shall determine the method of disposal.

Where Sections 25503 through 25507 of the Government Code discuss disposition of surplus property unless otherwise directed by the Board, surplus assets of a certain value may be sold or auctioned in an open, competitive environment such that maximum public exposure to the disposal process is accomplished. However, to minimize disposal costs, and assure that revenue from sales is maximized and obtained in a timely manner, it may be financially advantageous to the District to dispose of scrap and/or surplus personal property in a manner that expeditiously maximizes revenue but minimizes costs where possible while seeking to convert idle equipment and materials to revenue for other uses.

RECOMMENDATION

ACTION:

1. Discuss appropriate thresholds for the Purchasing Agent to dispose of assets without Board approval
2. Discuss appropriate thresholds for the Board to determine disposal of assets
3. Motion to Adopt the Bear Valley Water District Surplus Personal Property Policy as amended

Attachments:

- Bear Valley Water District Surplus Personal Property Policy - Draft
- Resolution 2021 - 500 – Adopting the Bear Valley Water District Surplus Personal Property Policy
- BVWD 5-Year Depreciation Schedule

Bear Valley Water District Surplus Personal Property Policy

I. Purpose and Application

This Policy establishes the authority and procedure for the disposition of the District's surplus personal property. All disposition of personal property shall adhere to this Policy, except as otherwise determined by the Board.

II. Definitions

The following definitions shall apply to the terms as they appear in this Policy:

a. "Agent" means the Surplus Personal Property Agent.
b. "Board" means the Board of Directors of Bear Valley Water District.
c. "District" shall mean the Bear Valley Water District.
d. "District Manager" means the person holding the title of District Manager or, if there isn't one, the senior manager of the District.
e. "Personal Property" means an any property owned by the District that is not land or real property. Personal Property includes all equipment and materials of any type.
f. "Surplus" means Personal Property no longer needed by the District.
g. "Policy" means this Bear Valley District Surplus Personal Property Policy.

III. Surplus Personal Property Agent Designated

The District Manager is the designated Surplus Personal Property Agent. The Agent may delegate all or a portion of the Surplus Personal Property disposal duties to any District staff member. The Agent shall have the authority to:

a. Authorize the disposition of Surplus Personal Property in accordance with the procedures outlined in this Policy;
b. Enter into and sign any contracts for the disposition of Surplus Personal Property the Agent determines are beneficial to the District;
c. Prepare and recommend to the Board any methods for disposing of Surplus Personal Property requiring Board approval in this Policy;
d. Establish and maintain such forms as the Agent deems reasonably necessary to the dispose of Surplus Personal Property.

IV. Disposition of Surplus Personal Property Procurement valued as less than $_0,000

If the Agent determines that the estimated value of any Surplus Personal Property is less than $_0,000.00, the Agent may dispose of said property in any manner that they determine will be beneficial to the District, including, but not limited to, throwing away any property when it would cost more to find a buyer for the property that its value. The Agent shall report to the Board at its next meeting how the property was disposed of and the amount the District received for the property.

V. Disposition of Surplus Personal Property Procurement valued as less than $_0,000

When the Agent estimates that the value of any Surplus Personal Property exceeds $_0,000, the Board shall determine how to dispose of that property.

VI. Conflict of Interest

The disposition of all Surplus Personal Property made pursuant to this Policy shall be subject to the limitations and requirements set forth in the District's Conflict of Interest Policy.

BEAR VALLEY WATER DISTRICT
RESOLUTION NO. 2021-__

RESOLUTION ADOPTING SURPLUS PERSONAL PROPERTY POLICY

WHEREAS, Bear Valley Water District (the "District") is authorized to for a valuable consideration lease, sell, or contract for the sale of any property of the District whenever it may be necessary, advisable, or for the best interests of the District, as provided under California Water Code section 35604.

WHEREAS, the District desires to establish policies and protocols that ensure appropriate controls, consistency and use of best practices in the disposal of the District's surplus personal property

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Bear Valley Water District, as follows:

1. The District hereby approves and adopts the Bear Valley Water District Surplus Personal Property Policy attached hereto as Exhibit A.

2. All previous surplus personal property policies are repealed.

PASSED AND ADOPTED by the Board of Directors of the Bar Valley Water District, at a regular meeting thereof, held on _____, 2021 by the following vote:

AYES: _____
NOES: _____
ABSENT: _____
ABSTENTION: _____

BEAR VALLEY WATER DISTRICT

By:_____
JAMES BISSELL
President, Board of Directors

ATTEST:

_____
JEFF GOUVEIA
General Manager

EXHIBIT A

BEAR VALLEY WATER DISTRICT SURPLUS PERSONAL PROPERTY POLICY

SSET	<BU%> METHOD	IN SRVCE	LIFE	BASIS	06/30/2023	06/30/2024	06/30/2025	06/30/2026	06/30/2027
C) 1: LAND									
1.0 Land	N/A	01/19/20	0	25,805	0	0	0	0	0
(C) 1: LAND *		1 asset(s)		25,805	0	0	0	0	0
C) 21: PLANT & ADMIN									
2.0 Tools	SL-Y	01/01/89	5	7,351	0	0	0	0	0
3.0 Flatcar	SL-Y	08/01/89	5	2,750	0	0	0	0	0
4.0 Beidge	SL-Y	10/01/89	5	220	0	0	0	0	0
5.0 Prints	SL-Y	12/01/89	5	192	0	0	0	0	0
6.0 Title Ins	SL-Y	03/01/90	5	58	0	0	0	0	0
7.0 Computer	SL-Y	01/01/91	5	1,671	0	0	0	0	0
8.0 Billing Program S	SL-Y	12/01/91	5	400	0	0	0	0	0
9.0 Printer	SL-Y	12/01/91	5	381	0	0	0	0	0
10.0 Radios	SL-Y	01/01/92	5	2,202	0	0	0	0	0
11.0 1993 FISO 4x4 Pic	SL-Y	06/01/93	5	12,747	0	0	0	0	0
12.0 Truck Improvement	SL-Y	07/01/93	5	756	0	0	0	0	0
13.0 Xerox Photocopier	SL-Y	05/01/97	5	272	0	0	0	0	0
14.0 Snowblower	SL-Y	10/01/97	5	1,925	0	0	0	0	0
15.0 Office Building	SL-Y	10/31/97	40	288,204	7,205	7,205	7,205	7,205	7,205
17.0 Dodge Ram PU	SL-Y	01/01/99	6	16,846	0	0	0	0	0
18.0 Dell Computer	SL-Y	07/17/09	3	1,325	0	0	0	0	0
180.0 Dell Optiplex Com	SL-Y	03/14/12	3	1,409	0	0	0	0	0
197.0 Utility Transfer	SL-Y	08/24/15	20	1,555	78	78	78	78	78
207.0 GIS Consulting Su	SL-Y	06/30/18	10	23,562	2,356	2,356	2,356	2,356	2,356
209.0 SCADA Monitoring	SL-Y	06/30/18	10	118,292	11,829	11,829	11,829	11,829	11,829
* (C) 21: PLANT & ADMIN *		20 asset(s)		482,118	21,468	21,468	21,468	21,468	21,468
(C) 22: SEWAGE - LAKE ALPINE									
19.0 Float Switches In	SL-Y!	09/01/91	15	979	0	0	0	0	0
20.0 Motor	SL-Y	10/01/91	2	395	0	0	0	0	0
21.0 Generator	SL-Y	11/01/91	20	12,402	0	0	0	0	0
22.0 Phase Converter	SL-Y	06/01/92	15	3,651	0	0	0	0	0
23.0 Boat Ramp	SL-Y!	12/01/92	15	6,299	0	0	0	0	0
24.0 Meter	SL-Y	07/01/93	10	535	0	0	0	0	0
25.0 Chickaree Pump Ho	MACRS-Y	06/01/98	10	3,190	0	0	0	0	0
26.0 Chickaree Pump Ho	SL-Y	01/01/99	10	1,126	0	0	0	0	0
27.0 Lake Alpine Pumps	SL-Y	01/01/05	15	76,657	0	0	0	0	0
28.0 Irr. Pump #2 & Up	SL-Y	01/01/05	15	2,720	0	0	0	0	0
29.0 Remodel Costs	SL-Y	01/01/05	15	8,765	0	0	0	0	0
30.0 Boat Ramp	SL-Y	01/01/05	15	2,567	0	0	0	0	0
31.0 Auto Dialer	SL-Y	09/01/05	15	3,516	0	0	0	0	0
32.0 Overhaul Moyno Pu	SL-Y	11/01/05	10	6,458	0	0	0	0	0
33.0 A/B 100 HP Start	SL-Y	10/13/06	15	13,621	0	0	0	0	0
34.0 Pump Repairs 6077	SL-Y	12/01/06	15	16,656	0	0	0	0	0
199.0 Phase Converter L	SL-Y	06/30/17	10	6,891	689	689	689	689	345
* (C) 22: SEWAGE - LAKE ALPINE *		17 asset(s)		166,428	689	689	689	689	345
(C) 23: SEWAGE COLLECTION									
35.0 Staton La Main	SL	08/31/78	10	325	0	0	0	0	0
36.0 Switches Station	SL	12/31/78	10	1,154	0	0	0	0	0
37.0 Main & LA Pump St	SL	09/01/79	40	33,186	0	0	0	0	0
38.0 Connector	SL	10/01/79	10	7,846	0	0	0	0	0
39.0 Pump Station Modi	SL	10/01/79	40	6,748	0	0	0	0	0
40.0 Log Cabin Bypass	SL	11/01/79	20	8,157	0	0	0	0	0
41.0 Dump	SL	06/01/80	10	1,165	0	0	0	0	0
42.0 Containment Basin	SL	09/01/79	10	5,716	0	0	0	0	0
43.0 Commeter	SL	10/01/79	10	3,289	0	0	0	0	0
44.0 Pump	SL	07/31/80	10	2,236	0	0	0	0	0
45.0 Fix Rod	SL	08/01/80	10	455	0	0	0	0	0
46.0 Pump & Switch Gea	SL	11/01/80	10	2,478	0	0	0	0	0
47.0 Air Compressor	SL	06/30/78	10	105	0	0	0	0	0

ASSET	<BU%>	METHOD	IN SRVCE	LIFE	BASIS	06/30/2023	06/30/2024	06/30/2025	06/30/2026	06/30/2027
48.0 Raco High Water A		SL	10/18/83	10	1,809	0	0	0	0	0
49.0 Transformer		SL	10/01/84	10	4,567	0	0	0	0	0
50.0 Pump (rebuild)		SL	03/01/85	10	1,780	0	0	0	0	0
51.0 Grade Compistatio		SL	07/01/85	10	597	0	0	0	0	0
52.0 ReliefControlValv		SL	07/01/85	10	1,947	0	0	0	0	0
53.0 Press Relief Valv		SL	07/01/85	10	518	0	0	0	0	0
54.0 Pump (rebuild)		SL	08/01/85	10	1,763	0	0	0	0	0
55.0 Overflow Tanks -		SL	09/01/85	10	496	0	0	0	0	0
56.0 Air Compressor		SL-Y	10/08/86	10	318	0	0	0	0	0
57.0 Leak Detection Sy		SL-Y	09/01/86	10	1,982	0	0	0	0	0
58.0 Misc.		SL-Y	12/01/86	10	298	0	0	0	0	0
59.0 Electric Motor		SL-Y	11/01/87	10	118	0	0	0	0	0
60.0 Clorenator		SL-Y	05/01/88	10	1,604	0	0	0	0	0
61.0 Overflow Tank		SL-Y	06/01/88	10	9,339	0	0	0	0	0
62.0 New Connection LT		SL-Y	10/01/88	10	975	0	0	0	0	0
63.0 Smart Pump LC Uni		SL-Y	10/01/89	10	1,129	0	0	0	0	0
64.0 New Pump - Lake A		SL-Y	10/01/89	10	6,778	0	0	0	0	0
65.0 New Connections L		SL-Y	10/01/89	10	251	0	0	0	0	0
66.0 Blower		SL-Y	09/01/01	10	849	0	0	0	0	0
67.0 Generator (emerge		SL-Y2	08/01/02	15	9,547	0	0	0	0	0
68.0 Trailer Hitch		SL-Y2	09/01/02	5	37	0	0	0	0	0
69.0 Slide Gate		SL-Y3	06/01/04	10	823	0	0	0	0	0
70.0 System Maps		SL-Y3	11/01/03	10	6,928	0	0	0	0	0
71.0 Waterman Valve		SL-Y3	11/01/03	10	5,954	0	0	0	0	0
72.0 Portable Flow Met		SL-Y	10/01/05	10	7,597	0	0	0	0	0
73.0 Pressure Washer &		SL-Y	09/01/05	15	754	0	0	0	0	0
74.0 Fix Paco Pump @ M		SL-Y	01/09/07	10	6,075	0	0	0	0	0
75.0 2007 Chevy Truck		SL-Y	10/13/06	5	8,330	0	0	0	0	0
77.0 Confined Space En		SL-Y3	01/01/09	10	4,219	0	0	0	0	0
177.0 Main Pump Station		SL-Y	06/30/12	20	171,561	8,578	8,578	8,578	8,578	8,578
182.0 Ebara K Series Pu		SL-Y!	06/25/13	10	6,114	309	0	0	0	0
183.0 Verisight Pro 200		SL-Y	08/30/13	10	11,910	1,191	595	0	0	0
185.0 Additional Ebara		SL-Y	09/30/13	10	688	69	33	0	0	0
198.0 Smartcover Monito		SL-Y	06/30/17	7	15,390	2,199	1,096	0	0	0
212.0 Hydro Jetter		SL-Y	06/30/18	20	59,272	2,964	2,964	2,964	2,964	2,964
213.0 Bee Gulch Lift St		SL-Y	06/30/19	25	60,408	2,416	2,416	2,416	2,416	2,416
218.0 Hydro Jetter		SL-Y	06/30/21	15	11,463	764	764	764	764	764
* (C) 23: SEWAGE COLLECTION *			50 asset(s)		497,048	18,490	16,446	14,722	14,722	14,722
(C) 24: SEWAGE DISPOSAL FACILITY										
76.0 Bloods Creek Outf		SL-Y3	06/30/08	40	742,797	18,570	18,570	18,570	18,570	18,570
78.0 Disposal Faciliti		SL	01/01/71	40	8,587	0	0	0	0	0
79.0 Engineering		SL	01/01/77	40	6,648	0	0	0	0	0
80.0 Irrigation Pipe		SL	08/01/80	10	7,567	0	0	0	0	0
81.0 Irrigation Pipe		SL	09/01/80	10	301	0	0	0	0	0
82.0 Spray Feild Phase		SL	01/01/83	40	48,778	610	0	0	0	0
83.0 Irrigation Pipe		SL	07/01/84	40	56	1	1	0	0	0
84.0 Roofing on New Bu		SL	01/01/84	20	530	0	0	0	0	0
85.0 Sprayfeild Additi		SL	09/01/85	20	6,644	0	0	0	0	0
86.0 Pump & Irrigation		SL-Y	08/01/86	10	7,074	0	0	0	0	0
87.0 Irrigation System		SL-Y	08/01/87	10	5,070	0	0	0	0	0
88.0 8" Water Meter		SL-Y	06/01/88	10	589	0	0	0	0	0
89.0 New Irrigation Sy		SL-Y	07/01/88	7	522	0	0	0	0	0
90.0 Asorbtion Trench		SL-Y	07/01/88	10	1,970	0	0	0	0	0
91.0 Irrigation Materi		SL-Y	08/01/88	10	868	0	0	0	0	0
92.0 Trench		SL-Y	09/01/88	10	5,123	0	0	0	0	0
93.0 Irrigation Materi		SL-Y	10/01/88	10	175	0	0	0	0	0
94.0 Trench		SL-Y	11/01/88	10	78	0	0	0	0	0
95.0 Sprayfield		SL-Y	07/01/89	10	1,068	0	0	0	0	0
96.0 Sprayfield		SL-Y	09/01/89	10	445	0	0	0	0	0
97.0 Sprayfield		SL-Y	04/01/90	10	10,237	0	0	0	0	0
98.0 Pump		SL-Y	07/01/90	10	7,643	0	0	0	0	0
99.0 Meter		SL-Y	09/01/90	10	855	0	0	0	0	0

ASSET	<BU%>	METHOD	IN SRVCE	LIFE	BASIS	06/30/2023	06/30/2024	06/30/2025	06/30/2026	06/30/2027
100.0 Battery		SL-Y	09/01/91	10	308	0	0	0	0	0
101.0 Sprayfield Expans		SL-Y	10/01/91	10	4,251	0	0	0	0	0
102.0 Sprayfield Expans		SL-Y	06/01/93	10	420	0	0	0	0	0
103.0 Sprayfield Expans		SL-Y	08/01/93	10	13,353	0	0	0	0	0
104.0 Extend Sprayfield		SL-Y!	12/01/96	10	10,131	0	0	0	0	0
105.0 Irrigation Pipe		SL-Y	03/01/98	10	898	0	0	0	0	0
106.0 Booster Pump MDL		SL-Y	07/01/01	10	8,940	0	0	0	0	0
107.0 Guard-It Auto Dia		SL-Y	09/01/01	10	1,053	0	0	0	0	0
108.0 Pumps		SL-Y	08/01/01	10	8,399	0	0	0	0	0
109.0 Effliemt 100 HP P		SL-Y2	10/01/01	10	7,000	0	0	0	0	0
110.0 Peerless Pump		SL-Y2	09/01/02	10	5,974	0	0	0	0	0
111.0 Simfloo Pump		SL-Y2!	10/01/02	7	2,365	0	0	0	0	0
112.0 Irrigation Flow M		SL-Y3	06/01/04	10	9,841	0	0	0	0	0
113.0 Groundwater Monit		SL-Y	01/01/05	10	10,785	0	0	0	0	0
114.0 Paco Pumps		SL-Y	10/23/06	10	4,050	0	0	0	0	0
115.0 Outfall Permit &		SL-Y	01/05/07	50	51,378	1,028	1,028	1,028	1,028	1,028
178.0 NPDES Permit		SL-4	07/01/11	5	60,189	0	0	0	0	0
179.0 DSP Facilities/sp		SL-Y	06/30/12	5	17,442	0	0	0	0	0
181.0 Dechlorination Sy		SL-Y!	07/01/12	10	21,540	1,077	0	0	0	0
190.0 OUTFALL BYPASS		SL-Y	08/24/14	25	28,914	1,157	1,157	1,157	1,157	1,157
191.0 PUMP REBUILD		SL	09/22/14	15	20,199	1,213	1,213	1,213	1,213	1,213
192.0 SOFTSTART FOR PUM		SL-Y	09/17/14	15	8,545	570	570	570	570	570
193.0 CLAVAL IRRIG. PUM		SL-Y	11/24/14	20	7,229	361	361	361	361	361
200.0 Spray Field Pipes		SL-Y	06/30/17	5	5,965	0	0	0	0	0
201.0 Power Fail Relay		SL-Y	06/30/17	10	1,188	119	119	119	119	57
202.0 Three Sigma Analo		SL-Y	06/30/17	10	2,072	207	207	207	207	105
203.0 USFS Special Use		SL-Y	06/30/17	5	8,344	0	0	0	0	0
204.0 Mixing Zone Study		SL-Y	06/30/17	5	12,210	0	0	0	0	0
205.0 NPDES Permit		SL-Y	06/30/17	5	10,345	0	0	0	0	0
206.0 Priority Pollutan		SL-Y	06/30/17	5	10,378	0	0	0	0	0
208.0 Dechlorination Sy		SL-Y	06/30/18	10	14,224	1,422	1,422	1,422	1,422	1,422
211.0 Mix Zone Study Ph		SL-Y	06/30/18	5	13,234	1,322	0	0	0	0
214.0 Inundation Mappin		SL-Y!	06/30/20	20	19,614	981	981	981	981	981
* (C) 24: SEWAGE DISPOSAL FACILITY *				56 asset(s)	1,264,403	28,638	25,629	25,628	25,628	25,464
(C) 25: SUBSURFACE LINES										
116.0 Sewage Lines		SL-Y	01/19/71	99	72,801	735	735	735	735	735
117.0 Engineering		SL	08/30/71	99	1,003	10	10	10	10	10
118.0 Manhole Cover		SL	06/30/72	99	58	1	1	1	1	1
119.0 System (1972-1)		SL	01/19/74	99	564,625	5,703	5,703	5,703	5,703	5,703
120.0 Trant #5 Sewer Sy		SL	01/19/76	99	34,732	351	351	351	351	351
121.0 Lake Alpine Col S		SL	01/01/76	99	502,742	5,078	5,078	5,078	5,078	5,078
122.0 Main Line Collect		SL	09/30/78	99	346	0	0	0	0	0
123.0 Lot 364 - Sewer L		SL-Y	09/19/94	75	5,500	73	73	73	73	73
124.0 Subserfact Lines		SL-Y	11/01/97	75	1,941	26	26	26	26	26
125.0 Sewer Lateral To		SL-Y2	12/01/01	75	3,978	53	53	53	53	53
126.0 Sewage Lines - Pa		SL	01/01/77	99	4,167	42	42	42	42	42
175.0 Sewer Lines Lisse		SL-Y	07/31/10	50	5,000	100	100	100	100	100
* (C) 25: SUBSURFACE LINES *				12 asset(s)	1,196,893	12,172	12,172	12,172	12,172	12,172
(C) 26: TREATMENT FACILITY										
127.0 Treatment Facilit		SL	01/19/71	40	27,918	0	0	0	0	0
128.0 1/3 HP Gearmotor		SL	07/31/72	20	728	0	0	0	0	0
129.0 Treatment Facilit		SL	07/31/73	40	261	0	0	0	0	0
130.0 Treatment Facilit		SL	07/31/74	40	298	0	0	0	0	0
131.0 Treatment Facilit		SL	06/30/74	40	209	0	0	0	0	0
132.0 Soil Test & Pollu		SL!	01/19/73	40	3,276	0	0	0	0	0
133.0 Treatment Plant &		SL	01/01/76	40	658,865	0	0	0	0	0
134.0 Division of Dam S		SL	01/01/77	40	1,092	0	0	0	0	0
135.0 Blower House		SL	10/01/79	20	1,344	0	0	0	0	0
136.0 2/500 Gal Propane		SL	05/01/80	10	900	0	0	0	0	0
137.0 Major Dam Repairs		SL	10/01/81	20	3,101	0	0	0	0	0

ASSET	<BU%>	METHOD	IN SRVCE	LIFE	BASIS	06/30/2023	06/30/2024	06/30/2025	06/30/2026	06/30/2027
138.0 Major Dam Repairs		SL	11/01/82	20	4,572	0	0	0	0	0
139.0 Spillway Construc		SL	10/01/84	20	525	0	0	0	0	0
140.0 Water Heater		SL	10/01/84	20	246	0	0	0	0	0
141.0 Overhead Trucks &		SL!	02/01/85	20	343	0	0	0	0	0
142.0 2 Motors		SL	06/01/85	20	1,166	0	0	0	0	0
143.0 Welding Pails		SL!	01/01/85	20	25	0	0	0	0	0
144.0 Blowing Equip		SL	08/01/85	20	377	0	0	0	0	0
145.0 Frnch Drain		SL	09/01/85	40	1,849	46	46	46	8	0
146.0 Duel Holeshaft		SL	06/01/85	10	915	0	0	0	0	0
147.0 Misc. Pump Work		SL-Y	10/01/86	10	11,900	0	0	0	0	0
148.0 Pump Parts		SL-Y	07/01/87	10	728	0	0	0	0	0
149.0 Paint		SL-Y	10/01/87	10	82	0	0	0	0	0
150.0 Clorenarion Inj.		SL-Y	10/01/87	10	71	0	0	0	0	0
151.0 Sump Pump		SL-Y	06/01/88	10	253	0	0	0	0	0
152.0 Spring Field Phas		SL	11/01/83	40	107,354	2,684	895	0	0	0
153.0 A Frame		SL	09/01/83	40	2,669	67	8	0	0	0
154.0 Spring Feild Expa		SL	06/01/84	40	240	6	5	0	0	0
155.0 Lake Alpine Col S		SL	06/12/78	99	43,200	436	436	436	436	436
156.0 Comminotor (Moj.		SL-Y	02/01/89	10	780	0	0	0	0	0
157.0 Pump, NSC		SL-Y	07/01/89	10	3,226	0	0	0	0	0
158.0 Communutor		SL-Y	10/01/89	10	11,384	0	0	0	0	0
159.0 Addition		SL-Y	11/01/89	10	52	0	0	0	0	0
160.0 Motor		SL-Y	09/01/91	10	229	0	0	0	0	0
161.0 Pump		SL-Y	10/01/91	10	6,323	0	0	0	0	0
162.0 Heater		SL-Y	12/01/91	10	208	0	0	0	0	0
163.0 Bettery		SL-Y	06/01/92	10	177	0	0	0	0	0
164.0 Pump		SL-Y	11/01/93	10	558	0	0	0	0	0
165.0 Comminutor		SL-Y	03/01/94	10	3,492	0	0	0	0	0
166.0 Truck		SL-Y!	07/01/01	5	9,322	0	0	0	0	0
167.0 WWTF Sampling		SL-Y3	01/01/04	10	1,388	0	0	0	0	0
168.0 Pressure Washer &		SL-Y	09/01/05	15	754	0	0	0	0	0
169.0 Chlorine Safety U		SL-Y	11/01/05	5	4,405	0	0	0	0	0
170.0 Main Station Flow		SL-Y	11/01/05	10	8,184	0	0	0	0	0
172.0 Toshiba 30HP Air		SL-Y	09/05/06	10	1,329	0	0	0	0	0
173.0 PACO Pumps		SL-Y	10/23/06	10	3,930	0	0	0	0	0
174.0 2007 Chevy Truck		SL-Y	10/13/06	5	8,330	0	0	0	0	0
176.0 Chlorine Contact		SL-Y	07/31/10	30	108,145	3,605	3,605	3,605	3,605	3,605
184.0 Chlorine Gas Dete		SL-Y	10/01/13	10	5,420	542	271	0	0	0
186.0 Addn'l Chlorine G		SL-Y	11/22/13	10	490	49	24	0	0	0
187.0 Addn'l Chlorine G		SL-Y	01/31/14	10	308	31	14	0	0	0
188.0 D.O. Probe		SL-Y	09/01/14	10	10,101	1,010	1,010	506	0	0
189.0 Gardner Denver VF		SL-Y	12/09/14	15	41,437	2,762	2,762	2,762	2,762	2,762
194.0 TSS Probe		SL-Y	08/01/15	10	3,929	393	393	393	196	0
195.0 Lightening/Surge		SL-Y	11/30/15	25	3,315	133	133	133	133	133
196.0 Treatment Pond Do		SL-Y	06/30/16	70	10,582	151	151	151	151	151
210.0 Equip House Trans		SL-Y	06/30/18	20	4,829	241	241	241	241	241
215.0 Treatment Pond Do		SL-Y	06/30/20	20	4,664	233	233	233	233	233
216.0 Treatment Pond Im		SL-Y	06/30/20	30	221,096	7,370	7,370	7,370	7,370	7,370
219.0 Transfer Flow Met		SL-Y	06/30/21	10	5,943	594	594	594	594	594
* (C) 26: TREATMENT FACILITY *				60 asset(s)	1,358,837	20,353	18,191	16,470	15,729	15,525
GRAND TOTAL				216 asset(s)	4,991,532	101,810	94,595	91,149	90,408	89,696

AGENDA ITEM

DATE: OCTOBER 18, 2021

TO: BVWD BOARD OF DIRECTORS

FROM: JEFF GOUVEIA, DISTRICT GENERAL MANAGER

RE: MANAGER'S REPORT

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1. Water Balance - Update
    a. Influent Flows & Effluent Transfers
    a. Effluent in Storage, Current Storage Capacity & Land / Surface Disposal Update
2. Permit Compliance & Monitoring & Reporting Programs (MRPs) - Update
    a. WDR MRP - Land Discharge Permit – Compliance & Reporting Update
        i. Reporting Status Matrix – No Certified Violations, All Reporting Submitted On-Time
    b. NPDES MRP – Surface Water Discharge Permit – Compliance & Reporting Update
        i. Reporting Status Matrix – No Certified Violations, All Reporting Submitted On-Time
        ii. Permit Renewal Update – September 21, 2021 Effluent Limits – Discussion of Anomalies
3. Other
    a. PGE-SGIP-2020-3656 – WWTF Powerpack Project – Update
    b. Cal OES Community Power Resiliency Allocation - Update
    c. Special District COVID Fund - $100 Million Independent Special District COVID-19 Relief Fund
    d. District Design Standards, Specifications & Details – Update
    e. Cybersecurity – Update
    f. Alpine County – De Novo Planning Group – Utility Service Questionnaire
    g. BVWD Roster – 2021 Expiration of Terms of Office (Bissell, Boyle, Lundquist) – Update
    h. AB 361 – Public Meetings and Brown Act Compliance

Board Meeting 10-18-21

- **Influent Flows (MG) – Total of ALL Wastewater Received / % change previous year**

July, 2021	July, 2020	July 2019
1.222 / 91.8%	1.331 / 67.5%	1.973 / 142.4%
August, 2021	**August, 2020**	**August 2019**
.783 / 70.4%	1.112 / 115.8%	1.112 / 115.8%
September, 2021	**September, 2020**	**September 2019**
.542 / 54.1%	1.001 / 125.3%	.799 / 103.4%
October 1 - 14, 2021	**October 1-14, 2020**	**October, 2019**
.203	.707 / 141.1	.501 / 100%

- **Transferred to PR (MG)** - **Volume of Water Moved from Treatment to Storage / % change previous year**

July, 2021	July, 2020	July 2019
.957 / 76.1%	1.257 / 53.3%	2.357 / 513.5% (drawdown for TP maint)
August, 2021	**August 2020**	**August 2019**
.815 / 174.5%	.467 / 10.9%	4.290 / 1,810.1% (drawdown for TP maint)
September, 2021	**September 2020**	**September 2019**
0 / 0	.724	0.000
October 1 - 14, 2021	**October, 2020**	**October, 2019**
0 / 0	.217	0.000

NOTE: During September 2021 maintenance was being performed on the Polishing Reservoir.

- **Land Application - Annual Totals – MG Applied / % change previous year**

2021	2020	2019	2018	2017
23.788 / 77.6%	30.639 / 158.8%	19.293 / 83.1%	23.215 / 144.6%	16.051 / 30.5%

2021 Land App Began May 24 **2020 Land App Began June 2** **2019 Land App Began July 12**

- **Surface Discharge - Effluent Flow Discharge Totals – MG - NO EFFLUENT WAS DISCHARGED IN 2020 or 2021**

March 2019	April 2019	May 2019	June 2019	Total 2019 Discharge
0.0	0.0	29.5	26.9	56.5
March 2018	**April 2018**	**May 2018**	**June 2018**	**Total 2018 Discharge**
0.0	11.9	11.7	0.0	23.6
March 2017	**April 2017**	**May 2017**	**June 2017**	**Total 2017 Discharge**
15.8	29.9	29.7	16.9	92.3

- **Storage Reservoir Elevations and Volumes** (based on 10/6/15 pressure chart):
  - Empty (minimum pool) = 7063.0' = 0 MG = 0'
  - Total Depth (w/2' Freeboard) = 7086.3' = 76.45 MG = 23.3'
  - Total Depth (spillway) = 7088.3' = 85.86 MG = 25.3'
  - Permitted Full Reservoir (2' Freeboard) = 7086.3' = 76.45 MG = 100%
    - Highest Level 2021 – 5/13/21 = 7073.3' = 25.17 MG = 32.9%
    - Highest Level 2020 – 5/28/20 = 7075.6' = 33.01 MG = 43.2%
    - Highest Level 2019 – 5/1/19 = 7079.8' = 48.68 MG = 63.7%
    - Highest Level 2018 – 4/20/18 = 7078.3' = 42.88 MG = 56.1%
    - Highest Level 2017 – 3/8/17 = 7083.9' = 65.67 MG = 85.9%
    - Highest Level 2016 – 5/26/16 = 7081.9' = 57.16 MG = 74.7%
    - Current Storage Volume = 7063.0 = 0.0 MG = 0.0% (10/18/2021)
    - Storage Volume 1 Year Ago = 7063.0 = 0.0 MG = 0.0% (10/14/2020)
- **Collection System**
  - **2021** (as of 9/30/21) Jet 10,692' Video 9320'
  - **2020:** Jet 17,194 ', % change previous year: 266%. Video 11,367', % change previous year: 196%
  - **2019:** Jet 6,468', % change previous year: 93%. Video 5,800' % change previous year: 249%
  - **2018:** Jet 6,990', % change previous year: 230%. Video 2,330', % change previous year: 173%
  - **2017** Jet 3030' Video 1350'

SMR / DMR Reporting

Facility Name: Bear Valley WWTF
Water Board Office: Region 5S - Sacramento
Reporting Level: Level II

Order Number: R5-2016-0045
Case Worker: Mohammad Farhad
All Electronic Date: 08/01/2016

To review or submit a report, select it from the list below. To change the list of reports, check the status types and/or enter start and end dates.

Show reports that meet these criteria

Status:

- [x] Submitted - report was already submitted to water board
- [x] In-Progress - report has been edited but not submitted
- [x] Past Due - report deadline has passed and report has not been submitted
- [x] Future - report due date is in the future
- [x] Withdrawn - report has been withdrawn

Show Report Due Between: 04/13/2021 and 04/13/2022

Refresh List | Show Calendar Year

Search results:

Export to Excel **Show:** 100

Previous 1-11 of 11 Next

ID	Report Name	Type	Frequency	Reporting Period	Due Date	Status	Date Received	Date Reviewed	Certified Violations	Report	Withdrawal
2495155	September 2021	MONNPDES	Monthly	09/01/2021 - 09/30/2021	11/01/2021	Future			No		
2505984	October 2021	MONNPDES	Monthly	10/01/2021 - 10/31/2021	12/01/2021	Future			No		
2516258	November 2021	MONNPDES	Monthly	11/01/2021 - 11/30/2021	01/01/2022	Future			No		
2524124	December 2021	MONNPDES	Monthly	12/01/2021 - 12/31/2021	02/01/2022	Future			No		
2416789	2021	MONNPDES	Annual	01/01/2021 - 12/31/2021	02/01/2022	Future			No		
2416788	March 2021	MONNPDES	Monthly	03/01/2021 - 03/31/2021	05/01/2021	Submitted	04/19/2021		No	Download Report	
2429412	April 2021	MONNPDES	Monthly	04/01/2021 - 04/30/2021	06/01/2021	Submitted	05/17/2021		No	Download Report	
2441061	May 2021	MONNPDES	Monthly	05/01/2021 - 05/31/2021	07/01/2021	Submitted	06/21/2021		No	Download Report	
2465241	June 2021	MONNPDES	Monthly	06/01/2021 - 06/30/2021	08/01/2021	Submitted	07/20/2021	10/12/2021	No	Download Report	
2477500	July 2021	MONNPDES	Monthly	07/01/2021 - 07/31/2021	09/01/2021	Submitted	08/30/2021	10/12/2021	No	Download Report	
2485547	August 2021	MONNPDES	Monthly	08/01/2021 - 08/31/2021	10/01/2021	Submitted	09/20/2021	10/12/2021	No	Download Report	

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SMR / DMR Reporting

Facility Name: Bear Valley WWTF

Water Board Office: Region 5S - Sacramento

Reporting Level: Level I

Order Number: 5-01-208

Case Worker: Kenny Croyle

To review or submit a report, select it from the list below. To change the list of reports, check the status types and/or enter start and end dates.

Show reports that meet these criteria

Status:

- [x] Submitted - report was already submitted to water board
- [x] In-Progress - report has been edited but not submitted
- [x] Past Due - report deadline has passed and report has not been submitted
- [x] Future - report due date is in the future
- [x] Withdrawn - report has been withdrawn

Show Report Due Between: 04/13/2021 and 04/13/2022

Refresh List | Show Calendar Year

Export to Excel **Show:** 100

Search results: Previous 1-14 of 14 Next

ID	Report Name	Type	Frequency	Reporting Period	Due Date	Status	Date Received	Date Reviewed	Certified Violations
2494375	September 2021	MONRPT	Monthly	09/01/2021 - 09/30/2021	11/01/2021	Future			No
2505792	October 2021	MONRPT	Monthly	10/01/2021 - 10/31/2021	12/01/2021	Future			No
2516075	November 2021	MONRPT	Monthly	11/01/2021 - 11/30/2021	01/01/2022	Future			No
2494376	Q3 2021 (3 times per year)	GR_WATER	Quarterly	10/01/2021 - 12/31/2021	02/01/2022	Future			No
2413411	2021	MONRPT	Annual	01/01/2021 - 12/31/2021	02/01/2022	Future			No
2523947	December 2021	MONRPT	Monthly	12/01/2021 - 12/31/2021	02/01/2022	Future			No
2413410	March 2021	MONRPT	Monthly	03/01/2021 - 03/31/2021	05/01/2021	Submitted	04/19/2021		No
2429206	April 2021	MONRPT	Monthly	04/01/2021 - 04/30/2021	06/01/2021	Submitted	05/17/2021		No
2440854	May 2021	MONRPT	Monthly	05/01/2021 - 05/31/2021	07/01/2021	Submitted	06/21/2021		No
2464587	June 2021	MONRPT	Monthly	06/01/2021 - 06/30/2021	08/01/2021	Submitted	07/20/2021		No
2477286	July 2021	MONRPT	Monthly	07/01/2021 - 07/31/2021	09/01/2021	Submitted	08/30/2021		No
2413412	Q1 2021 (3 times per year)	GR_WATER	Quarterly	04/01/2021 - 07/31/2021	09/01/2021	Submitted	08/18/2021		No
2485306	August 2021	MONRPT	Monthly	08/01/2021 - 08/31/2021	10/01/2021	Submitted	09/20/2021		No
2477287	Q2 2021 (3 times per year)	GR_WATER	Quarterly	08/01/2021 - 09/30/2021	11/01/2021	Submitted	09/13/2021		No

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bear valley
WATER DISTRICT

September 20, 2021

Central Valley Regional Water Quality Control Board
11020 Sun Center Drive #200
Rancho Cordova, CA 95670

Attn: James Marshall, P.E., Supervising Engineer

Reference: Evaluation of Effluent Discharge to Bloods Creek

Dear Mr. Marshall,

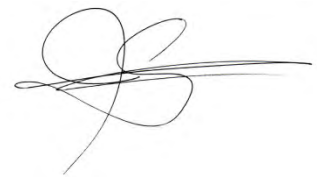
As requested by the Central Valley Regional Water Quality Control Board (Regional Water Board), on June 18, 2020 the Bear Valley Water District (District) submitted a Report of Waste Discharge (ROWD) and supporting information for renewal of Waste Discharge Requirements Order No. R5-2016-0045-02 (as amended by Order No. R5-2017-0041 and Order No. R5-2019-0078), NPDES No. CA0085146 (Order), permitting the District's Wastewater Treatment Facility (WWTF) discharge of treated wastewater (termed "effluent") to Bloods Creek.

Regional Water Board staff evaluated the District's submission and prepared an analysis of current and proposed draft effluent limits for discussion with the District. A meeting was held between the Regional Water Board, the District, and Stantec on July 13, 2021 to review these proposed limits as well as other permit modifications requested on behalf of the District. During this meeting, a discussion of whether there were known causes for anomalies in the provided information developed. As proposed when concluding this meeting, the attached analysis has been prepared to address causes for anomalies and other concepts discussed during this meeting in a quantitative manner.

Feel free to contact me with any questions you might have regarding this submittal, or if you require additional information. The District appreciates the efforts you and your staff have made to accommodate previous amendments as well as your efforts to work closely with the District to renew the Order.

Sincerely,

Bear Valley Water District



Jeff Gouveia, District Manager

Attachment: Bear Valley Water District Report of Waste Discharge

CC: Kelly McGartland, Stantec Consulting Services Inc.

Bear Valley Water District NPDES Permit Renewal

Evaluation of Effluent Discharge to Bloods Creek

September 20, 2021

Prepared for:

Bear Valley Water District

Prepared by:

Stantec Consulting Services Inc.

BEAR VALLEY WATER DISTRICT NPDES PERMIT RENEWAL

This document entitled Bear Valley Water District NPDES Permit Renewal was prepared by Stantec Consulting Services Inc. (“Stantec”) for the account of Bear Valley Water District (the “Client”). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by 
(signature)

Kelly McGartland, EIT

Reviewed by 
(signature)

Richard Stowell, PE

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1.0 BACKGROUND & PURPOSE

The Bear Valley Water District (District) owns and operates a wastewater collection, treatment, and disposal system serving the community of Bear Valley, which is primarily a resort community with winter snow sports and summer outdoor recreation. Wastewater treatment is accomplished via ponds. Treated wastewater (termed "effluent") is stored for subsequent application to forest land in summer and for discharge to Bloods Creek in winter/spring if/when specific conditions are met. According to the District's 1-In-100 Year Water Balance – 2020 Update technical memorandum (Weber, Ghio & Associates, 2020), the average total annual precipitation for water years 2010/2011 through 2018/2019 was 67.8 inches, with an average snow water content of 38.7 inches (data obtained from the Bloods Creek gauging station). The District's full 1-In-100 Year Water Balance – 2020 Update technical memorandum is provided in **Appendix A**. In heavy snowfall years, snow can fall into May and remain on the ground in shady areas into July. This hinders application of effluent to land throughout the following summer (such as in 2017). Heavy snowfall years also cause increased inflow and infiltration (I/I) into the wastewater collection system, treatment ponds, and effluent storage reservoir. Thus, the District has more effluent in storage under wet climatic conditions and limited ability to apply effluent to land, which necessitates the need to discharge some effluent to Bloods Creek. Heavy snowfall years also recharge shallow groundwater resources that may impact District wastewater operations adversely for months after the snowmelt season.

To address these situation-specific climatic factors in a protective, controlled, monitored, and cost-effective manner, the Central Valley Regional Water Quality Control Board (Regional Water Board) permits effluent discharge to Bloods Creek during the snowmelt season when 20-to-1 dilution of the effluent can occur. The current requirements for discharging effluent to Bloods Creek are specified in National Pollutant Discharge Elimination System (NPDES) permit No. CA0085146, Order No. R5-2016-0045-02 (hereafter referred to as Order). The Order is required to be reviewed every five years by Regional Water Board staff to determine if amendments to the Order are necessary based on new information from various sources.

The District provided the Regional Water Board with requested new information in the form of a Report of Waste Discharge (ROWD) submitted on June 18, 2020. Regional Water Board staff evaluated the information and requested a meeting to discuss whether there were known causes for anomalies in the provided information. A meeting was held between the Regional Water Board, District, and Stantec on July 13, 2021. This analysis has been prepared to address concepts discussed during this meeting in a quantitative manner.

2.0 WATER YEAR 2016/2017

Most of the anomalies discussed at the July 13 meeting were tied to water year (WY) 2016/2017, which was a very atypical year. WY 2016/2017 precipitation in Bear Valley is estimated to have been 98.4 inches, which is substantially more than the 67.8-inch average and the 83-inch 1-in-100 year precipitation value used in the design of the wastewater facilities. In other words, some deterioration in effluent quality is to be expected under such extreme conditions, and some deterioration did occur. In such extreme conditions, the critical conditions are whether public health was put at risk and whether the environment was put at greater risk than deemed appropriate by State of California policies as set forth by the State Water Resources Control Board (specifically, the State Implementation Policy, SIP) and the Regional Water Board (specifically, the Basin Plan).

The District's WY 2016/2017 effluent discharges did not put public health at risk based on the Order, actual WY 2016/2017 effluent disinfection results, and actual WY 2016/2017 effluent dilution provided by Bloods Creek. This fact is stated here for completeness; and public health was not an issue at the July 13 meeting because there were not anomalies in the data.

The District's WY 2016/2017 effluent discharges also did not put the environment at greater risk than deemed appropriate for such unusual and rare conditions. Regional Water Board staff identified four constituents of concern during the July 13 meeting: aluminum, copper, lead, and ammonia. A comparison of the actual in-stream conditions estimated in Bloods Creek below the entire effluent mixing zone (i.e., after the effluent was fully mixed into Bloods Creek) based on upstream Bloods Creek data, effluent data, and dilution using a "conservation of parameter" approach (i.e., ignoring buffer effects, solar heating, evaporative cooling, photosynthesis by stream vegetation, water quality impacts from groundwater infiltration, etc.) is presented in **Table 1** (for aluminum), **Table 2** (for copper), **Table 3** (for lead), and **Table 4** (for ammonia). The estimated in-stream conditions are compared to the calculated water quality criteria based on the respective day's ambient conditions below the entire effluent mixing zone (e.g., hardness, pH, and temperature). The water quality criteria for copper and lead are estimated based on the California Toxics Rule (CTR) contained in 40 CFR § 131.38, while the water quality criteria for aluminum and ammonia are estimated based on the most recent aquatic life ambient water quality criteria (AWQC) for freshwater (2013 for ammonia and 2018 for aluminum). The specific equations or resources used to calculate the values presented in **Table 1** through **Table 4** are included below.

Estimated In-Stream Conditions After Completely Mixed:

$$\frac{Measured\ Effluent\ Concentration * Effluent\ Flow + Upstream\ Concentration * Upstream\ Flow}{Effluent\ Flow + Upstream\ Flow}$$

Aluminum Aquatic Life AWQC: Aluminum Criteria Calculator V2.0 (EPA, 2018) based on the respective estimated in-stream conditions for pH, hardness, and dissolved organic carbon.

Copper Criteria Continuous Concentration (CCC):

$$Copper\ CCC = e^{0.8545*\ln(hardness)-1.702}$$

Copper Criteria Maximum Concentration (CMC):

$$Copper\ CMC = e^{0.9422*\ln(hardness)-1.700}$$

Lead CCC:

$$Lead\ CCC = e^{1.273*\ln(hardness)-4.705}$$

Lead CMC:

$$Lead\ CMC = e^{1.273*\ln(hardness)-1.460}$$

Ammonia CCC:

$$Ammonia\ CCC = 0.8876 * \left(\frac{0.0278}{1+10^{7.688-pH}} + \frac{1.1994}{1+10^{pH-7.688}}\right) * \left(2.126 * 10^{0.028*(20-MAX(temp,7))}\right)$$

Ammonia CMC:

$$Ammonia\ CMC = MIN\left(\left(\frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}}\right), \left(0.7249 * \left(\frac{0.0114}{1+10^{7.204-pH}} + \frac{1.6181}{1+10^{pH-7.204}}\right) * \left(23.12 * 10^{0.036*(20-temp)}\right)\right)\right)$$

As shown in **Table 1** through **Table 4**, the estimates of in-stream concentrations for aluminum, copper, lead, and ammonia after the effluent is completely mixed with the receiving water do not exceed the estimated CCC or CMC values for these constituents. Furthermore, there was 100% survival of all three test species assessed during the chronic toxicity testing and 100% survival during the acute toxicity testing completed on March 6, 2017 (the first day of discharge in 2017 and the date with the highest measured ammonia concentration).

As described above, the District's effluent discharges in 2017 did not put public health at risk and the environment was not put at greater risk than deemed appropriate by State of California policies. WY 2016/2017 far exceeded a 1-in-10 year event, suggesting that the data from WY 2016/2017 should be excluded from the effluent limitation analysis based on the intent of SIP being to develop effluent limitations based on events with a statistical frequency of occurring no rarer than once in 10 years.

Table 1 Comparison of Aquatic Life Ambient Water Quality Criteria to Estimates of Aluminum In-Stream Conditions in 2017 After Complete Mixing

Date	Measured Effluent				Measured Upstream (RSW-001)			Estimate of In-Stream Conditions After Complete Mixing (1)					Aquatic Life AWQC – Freshwater (2018) Analysis			
	Flow (MGD)	Hardness (mg/L as $CaCO_3$)	Minimum pH	Aluminum Concentration (µg/L)	Flow (MGD)	Hardness (mg/L as $CaCO_3$)	pH	Dilution	Hardness (mg/L as $CaCO_3$)	pH	Dissolved Organic Carbon (2)	Aluminum Concentration (µg/L) (3)	CCC (µg/L)	CCC Exceeded?	CMC (µg/L)	CMC Exceeded?
3/6/2017	0.09	44	6.3	62	5.5	14	7.0	60	15	7.0	1.07	50	260	NO	500	NO
3/8/2017	0.15	31	6.4	59	4.4	13	8.5	30	14	7.8	1.13	50	780	NO	1200	NO
4/5/2017	0.99	20	6.1	10	34	12	8.7	35	12	7.6	1.11	49	590	NO	980	NO
5/3/2017	1.00	10	6.0	39	57	11	7.3	58	11	7.2	1.07	50	350	NO	620	NO
6/7/2017	0.88	7.0	6.1	10	37	9.0	7.3	43	9.0	7.2	1.09	49	310	NO	540	NO

(1) Based on upstream Bloods Creek data, effluent data, and dilution using a "conservation of parameter" approach (i.e., ignoring buffer effects, solar heating, evaporative cooling, photosynthesis by stream vegetation, water quality impacts from groundwater infiltration, etc.)
(2) Based on an assumed effluent dissolved organic carbon (DOC) concentration of 5.0 mg/L and an assumed upstream DOC concentration of 1.0 mg/L.
(3) Based on a background aluminum concentration of 50 µg/L in stream/snowmelt (measured at RSW-001 on 3/6/2017).

Table 2 Comparison of CTR Criteria to Estimates of Copper In-Stream Conditions in 2017 After Complete Mixing

Date	Measured Effluent			Measured Upstream (RSW-001)		Estimate of In-Stream Conditions After Complete Mixing (1)			CTR Analysis			
	Flow (MGD)	Hardness (mg/L as $CaCO_3$)	Copper Concentration (µg/L)	Flow (MGD)	Hardness (mg/L as $CaCO_3$)	Dilution	Hardness (mg/L as $CaCO_3$)	Copper Concentration (µg/L) (2)	CCC (µg/L)	CCC Exceeded?	CMC (µg/L)	CMC Exceeded?
3/6/2017	0.09	44	4.3	5.5	14	60	15	0.26	1.8	NO	2.3	NO
3/8/2017	0.15	31	4.2	4.4	13	30	14	0.32	1.7	NO	2.1	NO
4/5/2017	0.99	20	6.4	34	12	35	12	0.37	1.5	NO	1.9	NO
5/3/2017	1.00	10	4.1	57	11	58	11	0.26	1.4	NO	1.7	NO
6/7/2017	0.88	7.0	1.5	37	9.0	43	9.0	0.22	1.2	NO	1.4	NO

(1) Based on upstream Bloods Creek data, effluent data, and dilution using a "conservation of parameter" approach (i.e., ignoring buffer effects, solar heating, evaporative cooling, photosynthesis by stream vegetation, water quality impacts from groundwater infiltration, etc.)
(2) Based on a background copper concentration of 0.19 µg/L in stream/snowmelt (measured at RSW-001 on 3/6/2017).

Table 3 Comparison of CTR Criteria to Estimates of Lead In-Stream Conditions in 2017 After Complete Mixing

Date	Measured Effluent			Measured Upstream (RSW-001)		Estimate of In-Stream Conditions After Complete Mixing (1)			CTR Analysis			
	Flow (MGD)	Hardness (mg/L as $CaCO_3$)	Lead Concentration (µg/L)	Flow (MGD)	Hardness (mg/L as $CaCO_3$)	Dilution	Hardness (mg/L as $CaCO_3$)	Lead Concentration (µg/L) (2)	CCC (µg/L)	CCC Exceeded?	CMC (µg/L)	CMC Exceeded?
3/6/2017	0.09	44	0.20	5.5	14	60	15	0.06	0.27	NO	7.0	NO
3/8/2017	0.15	31	0.19	4.4	13	30	14	0.06	0.25	NO	6.4	NO
4/5/2017	0.99	20	0.59	34	12	35	12	0.07	0.22	NO	5.6	NO
5/3/2017	1.00	10	0.06	57	11	58	11	0.06	0.19	NO	4.9	NO
6/7/2017	0.88	7.0	0.03	37	9.0	43	9.0	0.06	0.15	NO	3.8	NO

(1) Based on upstream Bloods Creek data, effluent data, and dilution using a "conservation of parameter" approach (i.e., ignoring buffer effects, solar heating, evaporative cooling, photosynthesis by stream vegetation, water quality impacts from groundwater infiltration, etc.)

(2) Based on a background lead concentration of 0.06 µg/L in stream/snowmelt (measured at RSW-001 as a non-detect with a maximum detection level of 0.06 µg/L on 3/6/2017).

Table 4 Comparison of Aquatic Life Ambient Water Quality Criteria to Estimates of Ammonia In-Stream Conditions in 2017 After Complete Mixing

Date	Measured Effluent				Measured Upstream (RSW-001)			Estimate of In-Stream Conditions After Complete Mixing (1)				Aquatic Life AWQC – Freshwater (2013) Analysis			
	Flow (MGD)	Temperature (°C)	Maximum pH	Ammonia Concentration (mg/L as N)	Flow (MGD)	Temperature (°C)	pH	Dilution	Temperature (°C)	pH	Ammonia Concentration (mg/L as N) (2)	CCC (mg/L as N)	CCC Exceeded?	CMC (mg/L as N)	CMC Exceeded?
3/6/2017	0.09	3.9	6.7	9.0	5.5	1.0	7.0	60	1.0	7.0	0.19	4.4	NO	24	NO
3/8/2017	0.15	3.7	7.6	8.7	4.4	1.0	8.5	30	1.1	8.4	0.33	0.9	NO	2.5	NO
3/15/2017	0.43	2.8	6.7	7.4	15	1.2	8.7	35	1.2	8.1	0.25	1.5	NO	4.3	NO
3/22/2017	1.00	2.6	6.4	7.0	32	1.7	8.9	33	1.7	7.9	0.25	2.1	NO	7.0	NO
3/29/2017	0.81	2.3	6.4	7.1	20	1.3	8.7	26	1.3	7.8	0.32	2.5	NO	8.7	NO
4/5/2017	0.99	1.9	6.3	6.6	34	2.5	8.7	35	2.5	7.8	0.23	2.3	NO	7.9	NO
4/12/2017	0.83	1.5	6.3	6.4	20	2.7	6.9	25	2.7	6.8	0.30	4.6	NO	27	NO
4/19/2017	1.22	1.0	6.3	5.6	37	2.1	6.8	31	2.1	6.8	0.22	4.7	NO	29	NO
4/26/2017	1.04	0.7	6.8	4.3	31	2.1	6.9	31	2.1	6.9	0.18	4.6	NO	27	NO
5/3/2017	1.00	0.7	6.9	2.8	57	2.0	7.3	58	2.0	7.3	0.09	3.7	NO	17	NO
5/10/2017	1.02	2.3	6.8	1.6	49	1.0	7.3	48	1.0	7.2	0.07	3.9	NO	19	NO
5/17/2017	1.04	1.8	6.2	1.7	28	2.9	7.6	28	2.9	7.3	0.10	3.7	NO	17	NO
5/24/2017	1.01	1.7	7.2	1.6	55	2.8	7.3	56	2.8	7.3	0.07	3.7	NO	17	NO
5/31/2017	0.94	3.2	7.2	2.9	41	2.4	6.8	44	2.4	6.8	0.10	4.6	NO	28	NO
6/7/2017	0.88	5.5	6.8	1.4	37	3.3	7.3	43	3.4	7.3	0.07	3.8	NO	18	NO
6/14/2017	0.74	8.9	7.1	2.6	25	2.5	6.9	34	2.7	6.9	0.11	4.6	NO	27	NO
6/21/2017	0.38	12.8	8.6	1.9	17	5.6	7.0	45	5.8	7.0	0.08	4.3	NO	23	NO
6/28/2017	0.10	15.1	7.2	2.4	4.1	7.8	7.0	41	8.0	7.0	0.10	4.1	NO	24	NO

(1) Based on upstream Bloods Creek data, effluent data, and dilution using a "conservation of parameter" approach (i.e., ignoring buffer effects, solar heating, evaporative cooling, photosynthesis by stream vegetation, water quality impacts from groundwater infiltration, etc.)

(2) Based on a background ammonia concentration of 0.04 mg/L as N in stream/snowmelt (measured at RSW-001 as a non-detect with a maximum detection level of 0.04 mg/L as N on 3/6/2017).

3.0 EFFLUENT DISCHARGE EVALUATION

3.1 COEFFICIENT OF VARIATION ASSESSMENT

SIP provides guidance to use a coefficient of variation (CV) value of 0.6 when less than 10 data are in the dataset. The bulk of wastewater treatment facilities in California making discharges to inland surface waters are believed to be using activated sludge processes in which the hydraulic residence time in the facility is less than two days. In other words, what comes in (in terms of conservative and relatively conservative contaminants) goes out and varies diurnally, daily, and weekly depending on what is happening in the service area and the wastewater facilities (specifically with regards to solids handling, including sludge dewatering and digester decanting). Because of this known variability in effluent quality from activated sludge processes, the Regional Water Board requires 24-hour composite sampling for some activated sludge process effluent constituents. The Regional Water Board does not typically require composite sampling of effluent from pond treatment facilities because the long residence time of such facilities equalizes the variations present in influent wastewater to a large extent. The District uses pond treatment followed by an effluent storage reservoir prior to discharge to Bloods Creek. Consequently, District effluent concentrations for conservative contaminants should be relatively stable in comparison to effluent from typical activated sludge facilities. Thus, the SIP default CV value of 0.6 is potentially too high for a pond/reservoir effluent discharge system, such as the District's system.

Of available data, the best dataset for evaluating a system-based CV for the District's facility is ammonia, from the more typical years of 2018 and 2019. Ammonia is relatively conservative in District effluent in winter/spring because the bacteria (termed "nitrifiers") that metabolize ammonia are very temperature sensitive and prefer to grow on surfaces (e.g., even bacterial floc in activated sludge processes), not open water (such as a pond system). District winter/spring effluent is relatively cold and provides minimum surface area for nitrifiers. Therefore, winter/spring ammonia is expected to be relatively conservative within the District's system (i.e., what comes "in" goes "out" but as buffered by the diluting effects of I/I and the water quality equalizing effects of the long hydraulic residence times of pond/reservoir treatment systems).

Based on this hypothesis, the 2018 and 2019 effluent ammonia data were plotted against time, starting with the day effluent discharges to Bloods Creek were initiated in each respective year (representing more typical snowmelt, hydraulic residence time, reservoir level/volume, inflow and infiltration, etc. conditions necessitating discharge). The results are shown in **Figure 1**, with the linear least squares fit equation having an R^2 value of 0.8474. The variance in measured data from this trend line for each datum point was added to the average of the measured dataset. This transformed dataset (representing the true variance away from the trend clearly observed in each discharge season in 2017, 2018, and 2019, as shown in **Figure 2**) was evaluated for normalcy of distribution and compared to the average of the dataset, as shown in **Figure 3** and **Figure 4**, respectively. As shown, the distribution has "normal" characteristics. The CV of the transformed data set is 0.21 with an average of 2.08 mg/L and a standard deviation of 0.43 mg/L (0.43 mg/L ÷ 2.08 mg/L = 0.21).

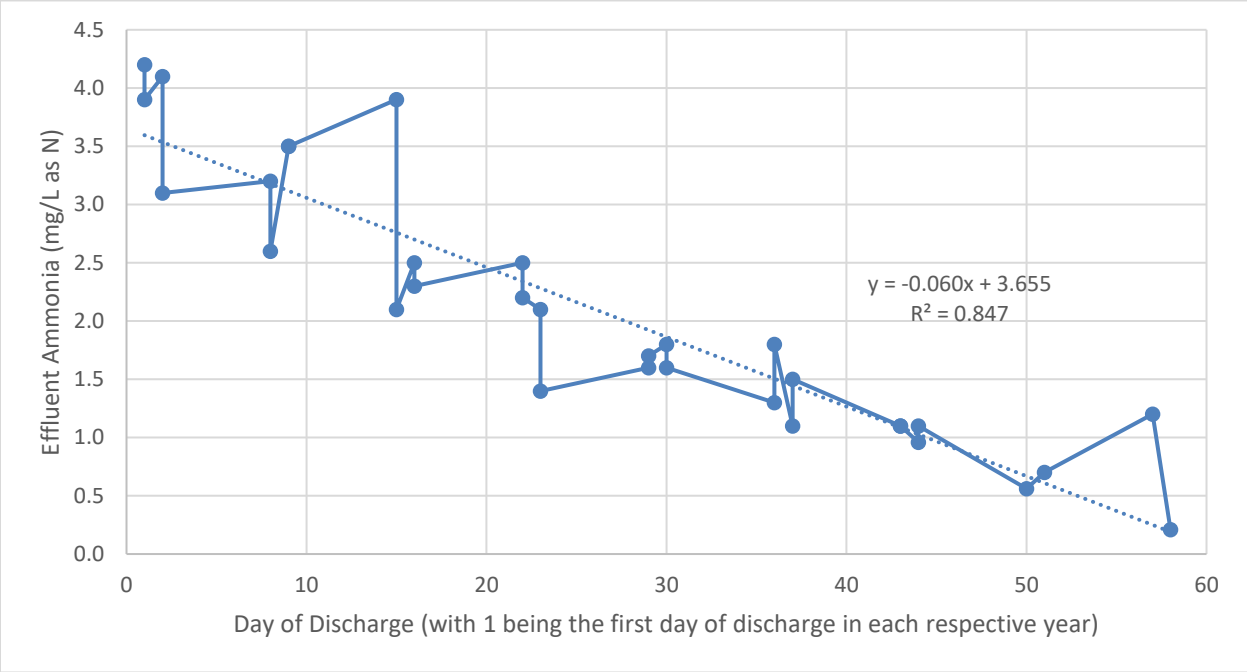

Figure 1 District Effluent Ammonia vs Day of Discharge (2018 and 2019 Data)

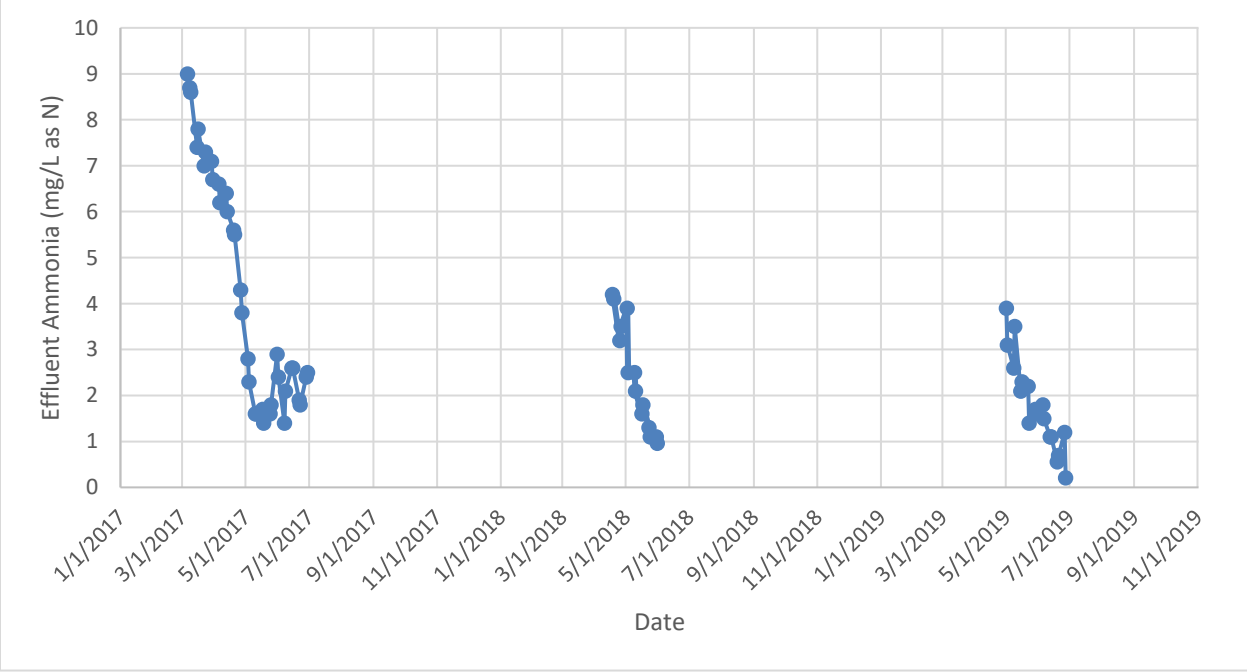

Figure 2 District Effluent Ammonia in 2017, 2018, and 2019

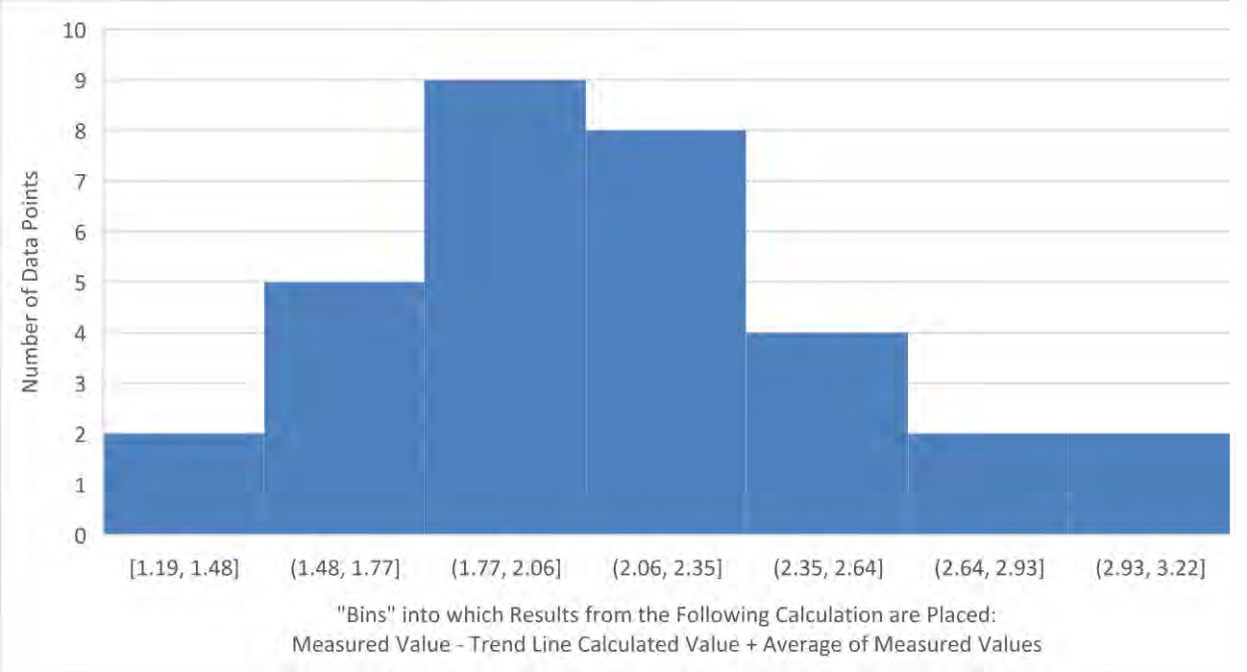

Figure 3 Histogram Showing Normal Distribution of Variance from Figure 1 Trend Line

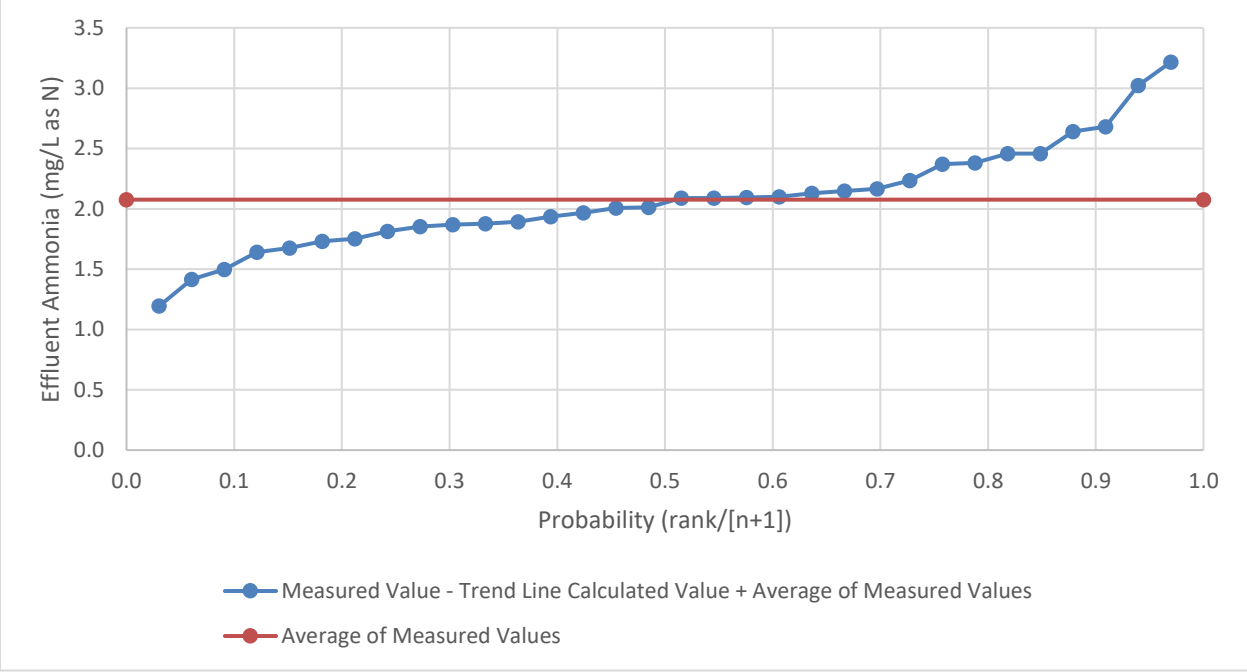

Figure 4 Comparison of Variance from Figure 1 Trend Line to Average of Measured Values

Based on the probability that the SIP default CV value of 0.6 is too high for the District's equalized pond/reservoir discharge facility, the best apparent estimate for a default CV value for conservative and relatively conservative effluent constituents from this specific facility is believed to be provided by snowmelt season effluent ammonia data in more typical years such as WY 2017/2018 and WY 2018/2019. The CV value derived from this dataset (as shown in **Figure 4**) is 0.21. Accordingly, a CV value of 0.21 is used, herein, for all subsequent analyses.

3.2 DISCUSSION OF AMMONIA TREND LINES

Because a default CV value of 0.21 is a critical input parameter used in subsequent analyses, the ammonia trend lines upon which the default CV value is based warrant additional discussion. The concept of CV is to estimate variance in data not impacted by verifiable trends in data. Trend lines are evident in effluent ammonia data during the effluent discharge periods in 2017, 2018, and 2019, as shown in **Figure 2**. The slope and R^2 value of the linear least squares fit line for each of the three data trends shown in **Figure 2** are presented in **Table 5**. The similarity of the slopes and R^2 values support the visual observation of **Figure 2** that the trend lines appear to be similar, though covering different years with different precipitation amounts, different months (somewhat), and different effluent temperature ranges.

Table 5 Ammonia vs Date Linear Least Squares Fit Line Slope and R^2 Values for 2017, 2018, and 2019

Year	Slope	R^2 Value
2017	-0.065	0.819
2018	-0.078	0.918
2019	-0.050	0.850

Cold temperature is known to inhibit nitrification of ammonia, but the R^2 value of the combined and more typical 2018 and 2019 dataset assessing temperature as the primary cause of the ammonia trend line is only 0.236, as shown in **Figure 5**. The R^2 value for a similar comparison between pH (also known to impact nitrifier activity) and ammonia is only 0.222, as shown in **Figure 6**. The main driver for effluent ammonia concentration trends in snowmelt season when effluent discharges to Bloods Creek may occur appears to be a combination of ski season wastes (relatively high ammonia concentrations caused by skiers), and the hydraulic surge and diluting effect of snowmelt season I/I into the collection system and directly into the effluent storage reservoir via infiltration from adjacent hill slopes. Once begun, these hydraulic phenomena (especially infiltration into sewers and the reservoir) should be relatively fixed. This is because snowmelt that cannot infiltrate simply runs off. Thus, if infiltration is relatively fixed, then the dilution of relatively stable ammonia left over from the preceding ski season should also be relatively fixed. This hypothesis explains the similar slopes of the trend lines shown in **Table 5**.

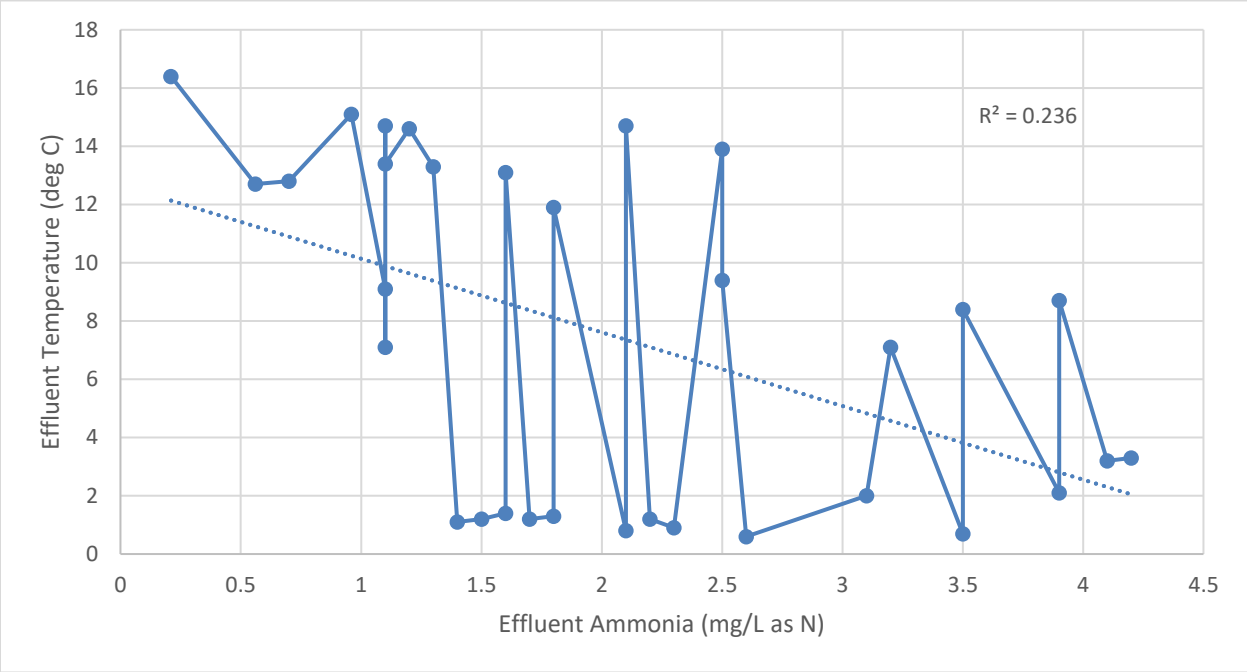

Figure 5 District Effluent Ammonia vs Temperature (2018 and 2019 Data)

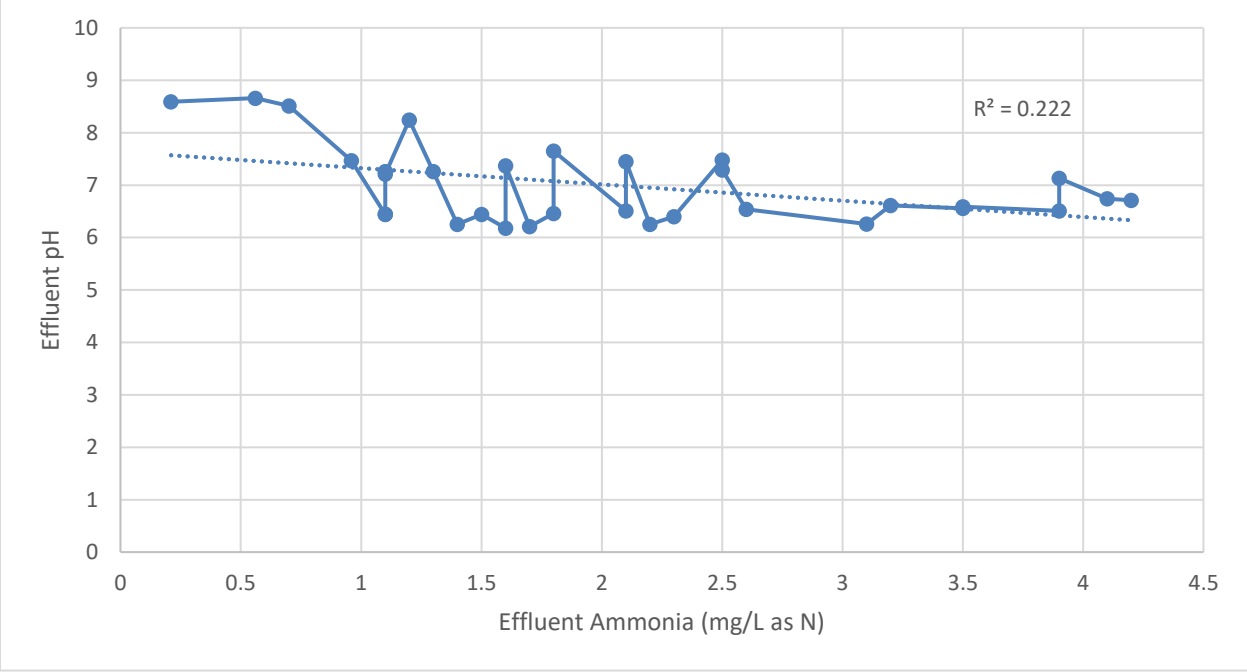

Figure 6 District Effluent Ammonia vs pH (2018 and 2019 Data)

The cause of the atypically high effluent ammonia concentrations in atypical WY 2016/2017 may partially be attributed to when the discharge started in 2017 compared to when the ski season ended. In 2017, effluent discharges began 48 days prior to Bear Valley Ski Resort closing, whereas discharges in 2018 and 2019 began 4 days prior to, and 9 days after Bear Valley Ski Resort closed, respectively. In other words, there was more time and I/I volume to dilute ski season high ammonia concentrations prior to starting discharge to Bloods Creek in 2018 and 2019 compared to 2017. This hypothesis is in agreement with the observed change from year-to-year in initial effluent ammonia concentration at the start of each effluent discharge period shown in **Figure 2**.

3.3 AVERAGE MONTHLY EFFLUENT LIMITATIONS ANALYSIS

After removing 2017 data, the average monthly effluent limitations (AMELs) were recalculated for the four constituents of concern using a CV value of 0.21. The effluent concentration dataset used for each constituent is shown in **Table 6**. The key input parameters and background concentrations used in the AMEL and projected maximum effluent concentration (MEC) calculations are shown in **Table 7** and **Table 8**, respectively.

Table 6 AMEL Analysis Constituent Effluent Dataset (2018 and 2019)

Date	Aluminum (µg/L)	Lead (µg/L)	Copper (µg/L)	Ammonia (mg/L as N)
4/18/2018	-	-	-	4.2
4/19/2018	110	0.14	3.7	4.1
4/25/2018	-	-	-	3.2
4/26/2018	-	-	-	3.5
5/2/2018	-	-	-	3.9
5/3/2018	110	0.099	2.5	2.5
5/9/2018	-	-	-	2.5
5/10/2018	-	-	-	2.1
5/16/2018	-	-	-	1.6
5/17/2018	-	-	-	1.8
5/23/2018	-	-	-	1.3
5/24/2018	-	-	-	1.1
5/30/2018	-	-	-	1.1
5/31/2018	-	-	-	0.96
5/1/2019	27	0.077	3.3	3.9
5/2/2019	-	-	-	3.1
5/8/2019	-	-	-	2.6
5/9/2019	-	-	-	3.5
5/15/2019	-	-	-	2.1
5/16/2019	-	-	-	2.3
5/22/2019	-	-	-	2.2
5/23/2019	-	-	-	1.4
5/29/2019	-	-	-	1.7
5/30/2019	-	-	-	1.6
6/5/2019	60	0.03 (<0.06)	2.5	1.8
6/6/2019	-	-	-	1.5
6/12/2019	-	-	-	1.1
6/13/2019	-	-	-	1.1
6/19/2019	-	-	-	0.56
6/20/2019	-	-	-	0.7
6/26/2019	-	-	-	1.2
6/27/2019	-	-	-	0.21
Mean	**77**	**0.09**	**3.0**	**2.1**
Std Dev	**41**	**0.05**	**0.6**	**1.1**

Table 7 AMEL Analysis Key Input Parameters

Input Parameter	Value
CV	0.21
Min Receiving Water Hardness (mg/L as $CaCO_3$)	9
Min Effluent Hardness (mg/L as $CaCO_3$)	11
Min Effluent pH (aluminum analysis)	6
Max Permitted pH (ammonia analysis)	9

Table 8 Constituent Background Concentrations Used in the AMEL Analysis

Constituent	Background Concentration (1)
Aluminum (µg/L)	36
Lead (µg/L)	0.015 (half of MDL)
Copper (µg/L)	0.24
Ammonia (mg/L as N)	0.02 (half of MDL)

(1) Measured on 5/24/2016 at RSW-001. The only upstream Bloods Creek sample taken during the current permit term was taken on 3/6/2017. Since all of 2017 data were excluded from the analysis, the 2016 measured background concentration was used in the analysis.

Using the data noted above, the AMELs were recalculated along with the projected MECs (calculated using both the Technical Support Document, TSD, method as well as the mean and standard deviation method). The AMELs and TSD method projected MECs were recalculated using the spreadsheets provided by the Regional Water Board prior to the July 13 meeting. As shown in **Table 9**, the proposed AMELs are achievable (determined by comparing the projected MEC to the proposed AMEL). Aluminum, lead, and ammonia are achievable using a dilution credit of 5 (dilution credit used in the current Order), while a dilution credit of 6.5 (revised dilution credit per the District's Updated Bloods Creek Dilution/Mixing Zone Study in 2017) is needed to achieve the proposed copper AMEL.

Table 9 Comparison of Projected MEC to Proposed AMEL

Constituent	Measured MEC	Projected MEC (TSD Method)	Projected MEC (Mean + 3.3*Std Dev Method)	Dilution Credit Used in Proposed AMEL	Proposed AMEL	Existing AMEL	Proposed AMEL Achievable? (i.e., Projected MEC < Proposed AMEL)
Aluminum (µg/L)	110	197	211	5	548	340	YES
Lead (µg/L)	0.14	0.25	0.24	5	0.80	1.8	YES
Copper (µg/L)	3.7	6.6	5.0	6.5	7.1	8.4	YES
Ammonia (mg/L as N)	4.2	5.4	5.7	5	7.0	13	YES

4.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The analysis presented in this report was prepared to address concepts discussed during the July 13, 2021 meeting in a quantitative manner.

The District's effluent discharges in 2017 did not put public health at risk and the environment was not put at greater risk than deemed appropriate by State of California policies. WY 2016/2017 far exceeded a 1-in-10 year event (as well as a 1-in-100 year event), suggesting that the data from WY 2016/2017 can be excluded from the effluent limitation analysis based on the intent of the SIP being to develop effluent limitations protective through events with a statistical frequency of occurring up to once in 10 years.

In theory, the SIP default CV value of 0.6 is too high for a pond/reservoir effluent discharge system, such as the District's. Of available data, the best dataset for estimating a default CV value for the District's system is ammonia from the snowmelt season (i.e., before nitrifiers are active), when ammonia should be acting as a relatively conservative contaminant (i.e., similar to copper, lead, and aluminum). The 2018 and 2019 effluent ammonia data were plotted against time, starting with the day effluent discharge to Bloods Creek commenced in each respective year (representing more typical snowmelt, hydraulic residence time, reservoir level/volume, inflow and infiltration, etc. conditions necessitating discharge). The variance in measured data from this trend line was added to the average of the measured data set. This transformed data set (representing the true variance away from the trend clearly observed in each discharge season in 2017, 2018, and 2019) has a CV value of 0.21. This 0.21 value is believed to be the best, most factually based basis for a default CV value for the District's facility.

Using 2018 and 2019 data with a CV value of 0.21, the AMELs and MECs were recalculated for the four constituents of concern (ammonia, aluminum, lead, and copper). With projected MECs being lower than

the recalculated AMELs (using a dilution credit of 5 for aluminum, lead, and ammonia, and a dilution credit of 6.5 for copper), it appears the District is capable of achieving reliable compliance with the recalculated AMELs.

It is recommended that the Regional Water Board consider recalculating the proposed AMELs and projected MECs using the 2018 and 2019 dataset as well as a default CV value of 0.21.

5.0 REFERENCES

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APPENDIX A

Bear Valley Water District Memorandum
1 In 100 Year Water Balance – 2020 Update

BEAR VALLEY WATER DISTRICT

MEMORANDUM

TO **Jeff Gouveia, District Manager**

FROM **Gary S. Ghio, P.E.**

RE **1 In 100 Year Water Balance – 2020 Update**

DATE **May 21, 2020**

Jeff, as requested, I have updated the District's 1 in 100 year water balance as well as calculations of District capacity based upon precipitation levels experienced since water year 2015/2016 to the present water year.

Table 1 below presents a summary of data from the Bloods Creek gauging station for Maximum Total Precipitation and Maximum Snow Water Content for this time period as well as the Department of Water Resources (DWR) 1 in 100 year levels and what was experienced in water year 2010/2011 (basis of previous 1 in 100 year water balance).

TABLE 1

Water Year	Total Precipitation (Inches)	Maximum Snow Water Content (Inches)
1 in 100	83	60
2010/2011	84.73	60.82
2015/2016	62.94	33.72
2016/2017	98.36	45.84
2017/2018	44.38	13.00
2018/2019	48.73	39.94
2019/2020 (to date)	25.32	23.24

As the can be seen from Table 1, the winter of 2016/2017 once again exceeded the total precipitation criteria for 1 in 100 year storm season. Due to this, the District proceeded with its first ever successful discharge to Bloods Creek; and in addition, obtained valid creek flow data for Bloods Creek for the entire January through June potential discharge period.

2020 WATER BALANCE UPDATE

Table 2 below presents a comparison of the total precipitation and snow water content projected in the 1 in 100-year water balances as well as what occurred during the 2010/2011 and the 2016/2017 precipitation seasons.

TABLE 2

	1 IN 100	2010/2011	2016/2017
Total Precipitation (In Inches)	83.00	84.73	98.36
Snow Water Content (In Inches)	60.00	60.82	45.84

As can be seen by the above comparisons of total precipitation and snow water content for 2010/2011 and 2016/2017, both storm seasons exceeded the 1 in 100 total precipitation level, but total precipitation was significantly higher and the snow water content was significantly lower in 2016/2017 as compared to 2010/2011.

Attached to this memorandum is the 2020 Update of the 2016/2017 water balance with actual flows/precipitation which was calibrated based upon actual storage levels encountered for November 2016 through October 2017 and the resulting 1 in 100 year water balance (see Tables 6 and 7).

As can be seen by the actual precipitation water balance, the estimated storage, predicted by the spreadsheet, tracks very closely with actual storage experienced during this time period which provides verification of the accuracy of the water balances.

As in previous water balances, the 1 in 100 year water balance was performed with updated 90^{th} percentile collection system flows for the time period 2000 thru 2019. Based upon this balance, the District would need to discharge approximated 82 MG of wastewater to ensure the polishing pond did not overflow which is less than the actual 92 MG which was discharged in 2016/2017 as the water year exceeded the 100 year levels.

Bloods Creek Flows and Assimilative Capacity

The capacity of the District to serve additional customers is driven by the assimilative capacity of Bloods Creek flows due to the method of wastewater disposal by stream discharge in accordance with the District's NPDES permit. The following Tables 3 and 4 present summaries of Bloods Creek flows and assimilative capacity (20:1 dilution) for the potential months of discharge for both water years 2010/2011 and 2016/2017.

TABLE 3

BLOODS CREEK TOTAL FLOW (MG)						
YEAR	**JANUARY**	**FEBRUARY**	**MARCH**	**APRIL**	**MAY**	**JUNE**
2010/2011	---	---	232	736	1163	1705
2016/2017	589	806	520	911	1408	732

TABLE 4

20:1 DILUTION BLOODS CREEK FLOWS (MG)						
YEAR	**JANUARY**	**FEBRUARY**	**MARCH**	**APRIL**	**MAY**	**JUNE**
2010/2011	---	---	11.0	35.1	55.4	81.2
2016/2017	28.0	38.4	24.7	43.4	67.1	35.8

The following Table 5 presents the amounts of wastewater discharged in 2016/2017 along with remaining assimilative capacity.

TABLE 5

2016/2017 WATER YEAR : EXCESS ASSIMILATIVE CAPACITY (MG)							
	JANUARY	**FEBRUARY**	**MARCH**	**APRIL**	**MAY**	**JUNE**	**TOTAL**
Discharge Amount	0	0	15.8	29.9	29.7	16.9	
Remaining Capacity	28.0	38.4	8.9	13.5	37.4	18.9	145.1

As can be seen by Table 5 there was a total of approximately 145 MG of remaining assimilative capacity in Bloods Creek in water year 2016/2017 to support District growth and additional amounts of discharge.

District Capacity

The Regional Water Quality Control Board criteria to perform 1 in 100 year projections is to utilize a historical DWR monitoring site in order to derive the 100 year monthly distribution of precipitation. As no DWR site currently exists near Bear Valley which has this data, the previous water balances and capacity determinations were based on the monthly distribution of precipitation that was experienced in 2010/2011 which was the last year of 1 in 100 year total precipitation exceedance at that time.

The 2016/2017 precipitation year also exceeded the 1 in 100 year total precipitation amount, but the pattern differed significantly from what was experienced in 2010/2011. The 2016/2017 1 in 100 year water balance projections which are attached to this memorandum (see Table 8 and Table 9) were performed utilizing both precipitation patterns reduced down to 1 in 100 year levels along with updated 90th percentile collection system flows for 2000 thru 2019. This analysis was performed to ensure the water balances' basis is the worst case precipitation level and pattern based upon available data.

In comparing Table 8 and Table 9, the 2016/2017 precipitation pattern would have been a worst year in terms of volume of discharge required (121.5 MG) as compared to 2010/2011 (114.8 MG) but not of such significance that it would alter the previous capacity determination in 2016 of an additional 1,196 EDUs. In addition, it is anticipated that sufficient assimilative capacity exists in Bloods Creek to support this level of discharge based upon the 145 MG of excess assimilative capacity in water year 2016/017.

Should you have any questions regarding any of the information contained in this memo please let me know.

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TABLE 6

BEAR VALLEY WATER DISTRICT WASTEWATER TREATMENT AND DISPOSAL SYSTEM 6/8/2020 9:26

(2020 update) 2016/2017 Water Year - Actual Flows/Precipitation

INPUT DATA

TREATMENT POND CHARACTERISTICS		STORAGE RESERVOIR		IRRIGATION AREA CHARACTERISTICS		CLIMATOLOGICAL FACTORS	
GROSS AREA (ac)	3.2	GROSS AREA (ac)	18.6	DISTRICT DISPOSAL LAND (AC)	80		
WATER SURFACE AREA (ac)	2.9	MAX. WATER SURFACE (ac)	14.2	SOIL WATER DEFICIT BEFORE IRRIGATION (IN)	n/a	OCT-APR EVAP/AVG EVAP RATIO	0.76
				FRACT OF LAND IRRIGATED	n/a	MAY-SEP EVAP/AVG EVAP RATIO	1.00
		STORAGE CAPACITY (MG)	76.43	IRRIGATION EFFICIENCY (DECIMAL FRACT)	n/a	PAN COEFFICIENT	0.80
		FRAC EST. PERC	1.0	FRACTION OF EST. PERC RATE	n/a	LAND PRECIP COLLECTED (FRAC)	0.9

PARAMETER / MONTH	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	ANNUAL
DAYS IN MONTH	30	31	31	28	31	30	31	30	31	31	30	31	365
AVG PAN EVAP (IN)	0.89	0.61	0.76	0.83	2.14	3.69	5.34	6.64	7.63	6.87	5.17	3.05	43.62
ACTUAL PRECIP (IN)	3.47	9.29	33.72	26.04	6.27	10.16	1.20	2.09	0.37	1.98	3.27	0.50	98.36
ACTUAL SNOW ACCUM (IN Water)(g)	2.28	4.56	27.72	43.32	40.56	39.24	0.00	0.00	0.00	0.00	0.00	2.76	
ACTUAL SNOW MELT IN MONTH (IN Water)	0.84	1.08	0.00	1.32	8.40	10.56	39.24	0.00	0.00	0.00	0.00	0.71	62.15
ACTUAL NEW SNOW IN MONTH (IN Water)	3.12	3.36	23.16	16.92	5.64	9.24	0.00	0.00	0.00	0.00	0.00	3.47	64.91
ESTIMATED MAX PERCOLATION (IN)(a)	10.0	29.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
ACTUAL INFLUENT FLOW (Avg. GAL/D)	32,967	93,548	152,032	212,250	121,032	156,800	186,581	108,700	61,097	34,742	25,633	15,032	

CALCULATIONS

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	ANNUAL
WASTEWATER VOLUME (gal)	989,010	2,899,988	4,712,992	5,943,000	3,751,992	4,704,000	5,784,011	3,261,000	1,894,007	1,077,002	768,990	465,992	36,251,984
EVAPORATION (IN)	0.5	0.4	0.5	0.5	1.3	2.2	4.3	5.3	6.1	5.5	4.1	1.9	32.6
PRECIPITATION (IN)	3.47	9.29	33.72	26.04	6.27	10.16	1.20	2.09	0.37	1.98	3.27	0.50	98.36
TREATMENT POND													
PERCOLATION (IN)	8.38	5.41	12.69	7.74	5.73	21.66	15.57	17.29	4.18	2.11	2.81	2.97	106.55
PERC VOLUME (gal)	659,620	426,378	999,502	609,371	451,372	1,705,370	1,226,247	1,361,614	329,361	166,362	221,115	233,864	8,390,176
EVAP. VOLUME (gal)	39,374	31,499	39,374	39,374	102,372	173,244	338,614	417,361	480,359	433,111	322,864	149,620	2,567,166
PRECIP. VOLUME (gal)	298,694	799,675	2,902,587	2,241,499	539,716	874,564	103,295	179,905	31,849	170,437	281,479	43,040	8,466,739
TREATMENT DISPOSAL(GAIN)/ (gal)	(400,299)	341,798	1,863,711	1,592,754	(14,028)	(1,004,051)	(1,461,566)	(1,599,070)	(777,871)	(429,036)	(262,501)	(340,445)	(2,490,604)
POLISHING RESERVOIR													
PERCOLATION (IN)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERC VOLUME (gal)	0	0	0	0	0	0	0	0	0	0	0	0	0
W.S. AREA (ac)(b)	7.16	8.28	9.48	11.44	13.13	12.76	11.50	10.65	9.14	7.98	4.74	3.98	
EVAP. VOLUME (gal)	97,240	89,947	128,649	155,286	463,341	762,439	1,342,302	1,532,791	1,513,460	1,192,525	528,252	205,171	8,011,403
PRECIP. VOLUME (gal)	1,647,361	4,438,600	16,220,186	12,664,636	3,078,178	4,977,915	583,815	1,012,012	177,639	944,417	1,530,949	233,047	47,508,757
MONTHLY AVAIL. SNOWMELT (IN)(c)	0.84	1.08	0.00	1.32	8.40	10.56	39.24	0.00	0.00	0.00	0.00	0.71	62.15
ESTIMATED SNOW CONTR. (%)(d)	100%	100%	100%	100%	40%	40%	30%	0%	0%	0%	0%	0%	
ESTIMATED AREA OF INFLUENCE (ac)	50	50	50	50	50	50	50	50	50	50	50	50	
ESTIMATED INFLUX TO STORAGE (gal)(e)	1,140,480	1,466,331	0	1,792,183	4,561,920	5,734,985	15,983,013	0	0	0	0	0	30,678,912
RESERVOIR DISPOSAL(GAIN) (gal)	2,690,601	5,814,985	16,091,537	14,301,533	7,176,758	9,950,461	15,224,525	(520,779)	(1,335,820)	(248,108)	1,002,697	27,876	70,176,266
IRRIGATION													
IRRIGATION DISPOSAL (gal)(f)	0	0	0	0	0	0	0	0	7,486,000	6,228,000	2,337,000	0	16,051,000
STORAGE													
BEGINNING STORAGE (gal)	5,800,000	9,079,312	18,136,083	40,804,324	62,641,611	57,733,484	41,522,884	31,387,854	15,667,005	7,961,321	2,133,178	1,305,365	
CALCULATED STORAGE GAIN (gal)	3,279,312	9,056,771	22,668,241	21,837,287	10,914,721	13,650,410	19,546,970	1,141,151	-7,705,685	-5,828,142	-827,814	153,424	
PROJECTED ESTIMATED STORAGE (gal)	9,079,312	18,136,083	40,804,324	62,641,611	73,556,332	71,383,894	61,069,854	32,529,005	7,961,321	2,133,178	1,305,365	1,458,788	=CARRYOVER
AMOUNT DISCHARGED TO BLOODS CREEK (gal)	0	0	0	0	15,822,848	29,861,010	29,682,000	16,862,000	0	0	0	0	92,227,858
ESTIMATED STORAGE (gal)	9,079,312	18,136,083	40,804,324	62,641,611	57,733,484	41,522,884	31,387,854	15,667,005	7,961,321	2,133,178	1,305,365	1,458,788	
ACTUAL STORAGE (gal)	6,700,000	17,830,000	41,740,000	64,200,000	56,340,000	39,880,000	27,490,000	13,250,000	6,850,000	1,790,000	0	980,000	

MAXIMUM STORAGE (MG) 62.64

AVAILABLE STORAGE (MG) 76.43

SUMMARY

ANNUAL INFLOW (MG)	
WASTEWATER	36.25
PRECIPITATION	55.98
SNOW INFLUX (MG)	30.68
TOTAL	122.91

ANNUAL OUTFLOW POTENTIAL (MG)	
AMOUNT DISCHARGED TO BLOODS CREEK	92.23
EVAPORATION	10.58
PERCOLATION	8.39
IRRIGATION	16.05
TOTAL	127.25

OVERALL BALANCE	
UNUSED DISPOSAL CAPACITY (MG) (MUST NOT BE NEGATIVE)	-1.46
UNUSED STORAGE CAPACITY (MG) (MUST NOT BE NEGATIVE)	13.79

(a) Estimated percolation based upon measured inflow components, estimated evaporation, and actual reservoir levels in 2011 - in Storage Reservoir only.

(b) Reservoir water surface area is a function of storage volume at start of month.

(c) Estimated snowmelt volume available for influx to storage reservoir.

(d) Estimated percentage of snowmelt contributing to influx to reservoir.

(e) Estimated based on fraction of accumulated snow within reservoir "area of influence" entering the reservoir during snowmelt months.

(f) Disposal capacity based on maximum estimated land disposal volumes.

(g) Per Bloods Creek Gauging Station

(h) Not used in calculations

TABLE 7

BEAR VALLEY WATER DISTRICT WASTEWATER TREATMENT AND DISPOSAL SYSTEM 6/8/2020 9:26

(2020 update) 2016/2017 water year: 1 in 100 Year Water Balance Projection - 2000 thru 2019 90TH Percentile monthly ADF

INPUT DATA

TREATMENT POND CHARACTERISTICS		STORAGE RESERVOIR		IRRIGATION AREA CHARACTERISTICS		CLIMATOLOGICAL FACTORS	
GROSS AREA (ac)	3.2	GROSS AREA (ac)	18.6	DISTRICT DISPOSAL LAND (AC)	80		
WATER SURFACE AREA (ac)	2.9	MAX. WATER SURFACE (ac)	14.2	SOIL WATER DEFICIT BEFORE IRRIGATION (IN)	n/a	OCT-APR EVAP/AVG EVAP RATIO	0.76
				FRACT OF LAND IRRIGATED	n/a	MAY-SEP EVAP/AVG EVAP RATIO	1.00
		STORAGE CAPACITY (MG)	76.43	IRRIGATION EFFICIENCY (DECIMAL FRACT)	n/a	PAN COEFFICIENT	0.80
		FRAC EST. PERC	1.0	FRACTION OF EST. PERC RATE	n/a	LAND PRECIP COLLECTED (FRAC)	0.9

PARAMETER / MONTH	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	ANNUAL
DAYS IN MONTH	30	31	31	28	31	30	31	30	31	31	30	31	365
AVG PAN EVAP (IN)	0.89	0.61	0.76	0.83	2.14	3.69	5.34	6.64	7.63	6.87	5.17	3.05	43.62
ESTIMATED PRECIP (IN)	3.17	8.48	30.79	22.56	5.72	9.28	1.10	1.91	0.00	0.00	0.00	0.00	83.00
ESTIMATED SNOW ACCUM (IN Water)(g)	2.23	4.46	27.12	42.39	39.69	38.40	0.00	0.00	0.00	0.00	0.00	0.00	
ESTIMATED SNOW MELT IN MONTH (IN Water)	0.82	1.06	0.00	1.29	8.10	10.33	38.40	0.00	0.00	0.00	0.00	0.00	60.00
ESTIMATED NEW SNOW IN MONTH (IN Water)	3.05	3.29	22.66	16.56	5.40	9.04	0.00	0.00	0.00	0.00	0.00	0.00	60.00
ESTIMATED MAX PERCOLATION (IN)(a)	10.0	29.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
90TH PERCENTILE EXISTING FLOWS (Avg. GAL/D)	37135	77828	98766	131156	125459	186046	188872	127254	73229	61715	38479	31386	

CALCULATIONS

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	ANNUAL
WASTEWATER VOLUME (gal)	1,114,050	2,412,668	3,061,746	3,672,368	3,889,229	5,581,380	5,855,032	3,817,620	2,270,099	1,913,165	1,154,370	972,966	35,714,693
EVAPORATION (IN)	0.5	0.4	0.5	0.5	1.3	2.2	4.3	5.3	6.1	5.5	4.1	1.9	32.6
PRECIPITATION (IN)	3.17	8.48	30.79	22.56	5.72	9.28	1.10	1.91	0.00	0.00	0.00	0.00	83.01
TREATMENT POND													
PERCOLATION (IN)	8.38	5.41	12.69	7.74	5.73	21.66	15.57	17.29	4.18	2.11	2.81	2.97	106.55
PERC VOLUME (gal)	659,620	426,378	999,502	609,371	451,372	1,705,370	1,226,247	1,361,614	329,361	166,362	221,115	233,864	8,390,176
EVAP. VOLUME (gal)	39,374	31,499	39,374	39,374	102,372	173,244	338,614	417,361	480,359	433,111	322,864	149,620	2,567,166
PRECIP. VOLUME (gal)	272,871	729,951	2,650,375	1,941,944	492,372	798,814	94,687	164,411	0	0	0	0	7,145,425
TREATMENT DISPOSAL(GAIN)/ (gal)	(426,123)	272,074	1,611,500	1,293,199	(61,372)	(1,079,801)	(1,470,174)	(1,614,564)	(809,720)	(599,473)	(543,979)	(383,484)	(3,811,918)
POLISHING RESERVOIR													
PERCOLATION (IN)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERC VOLUME (gal)	0	0	0	0	0	0	0	0	0	0	0	0	0
W.S. AREA (ac)(b)	6.20	7.76	9.10	10.93	12.34	12.08	11.08	10.50	9.09	2.76	2.64	2.57	
EVAP. VOLUME (gal)	84,162	84,320	123,611	148,393	435,664	721,775	1,293,979	1,511,261	1,504,881	412,533	293,500	132,594	6,746,672
PRECIP. VOLUME (gal)	1,496,647	4,039,668	14,779,755	10,941,027	2,795,985	4,529,604	533,927	924,078	0	0	0	0	40,040,690
MONTHLY AVAIL. SNOWMELT (IN)(c)	0.82	1.06	0.00	1.29	8.10	10.33	38.40	0.00	0.00	0.00	0.00	0.00	60.00
ESTIMATED SNOW CONTR. (%)(d)	100%	100%	100%	100%	40%	40%	30%	0%	0%	0%	0%	0%	
ESTIMATED AREA OF INFLUENCE (ac)	50	50	50	50	50	50	50	50	50	50	50	50	
ESTIMATED INFLUX TO STORAGE (gal)(e)	1,115,930	1,434,767	0	1,753,604	4,399,951	5,611,532	15,638,956	0	0	0	0	0	29,954,738
RESERVOIR DISPOSAL(GAIN) (gal)	2,528,414	5,390,114	14,656,145	12,546,237	6,760,272	9,419,361	14,878,904	(587,183)	(1,504,881)	(412,533)	(293,500)	(132,594)	63,248,756
IRRIGATION													
IRRIGATION DISPOSAL (gal)(f)	0	0	0	0	0	0	0	0	14,950,000	1,010,000	376,000	506,500	16,842,500
STORAGE													
BEGINNING STORAGE (gal)	4,060,000	7,276,341	15,351,197	34,680,588	52,192,392	48,856,553	36,500,069	29,644,089	15,159,962	165,459	56,619	0	
CALCULATED STORAGE GAIN (gal)	3,216,341	8,074,856	19,329,390	17,511,804	10,588,129	13,920,940	19,263,762	1,615,873	-14,994,503	-108,841	-59,109	-49,613	
PROJECTED ESTIMATED STORAGE (gal)	7,276,341	15,351,197	34,680,588	52,192,392	62,780,521	62,777,493	55,763,831	31,259,962	165,459	56,619	0	0	
AMOUNT DISCHARGED TO BLOODS CREEK (gal)	0	0	0	0	13,923,968	26,277,424	26,119,742	16,100,000	0	0	0	0	82,421,134
ESTIMATED STORAGE (gal)	7,276,341	15,351,197	34,680,588	52,192,392	48,856,553	36,500,069	29,644,089	15,159,962	165,459	56,619	0	0	

MAXIMUM STORAGE (MG)	52.19
AVAILABLE STORAGE (MG)	76.43

SUMMARY

ANNUAL INFLOW (MG)	
WASTEWATER	35.71
PRECIPITATION	47.19
SNOW INFLUX (MG)	29.95
TOTAL	112.86

ANNUAL OUTFLOW POTENTIAL (MG)	
AMOUNT DISCHARGED TO BLOODS CREEK	82.42
EVAPORATION	9.31
PERCOLATION	8.39
IRRIGATION	16.84
TOTAL	116.97

OVERALL BALANCE	
UNUSED DISPOSAL CAPACITY (MG) (MUST NOT BE NEGATIVE)	0.05
UNUSED STORAGE CAPACITY (MG) (MUST NOT BE NEGATIVE)	24.24

(a) Estimated percolation based upon measured inflow components, estimated evaporation, and actual reservoir levels in 2011 - in Storage Reservoir only.

(b) Reservoir water surface area is a function of storage volume at start of month.

(c) Estimated snowmelt volume available for influx to storage reservoir.

(d) Estimated percentage of snowmelt contributing to influx to reservoir.

(e) Estimated based on fraction of accumulated snow within reservoir "area of influence" entering the reservoir during snowmelt months.

(f) Disposal capacity based on maximum estimated land disposal volumes.

(g) Per Bloods Creek Gauging Station

(h) Not used in calculations

TABLE 8

BEAR VALLEY WATER DISTRICT WASTEWATER TREATMENT AND DISPOSAL SYSTEM 6/8/2020 9:26

(2020 update- 2010/2011 Precip. Pattern) 1 in 100 Year Water Balance Projection - 2000 thru 2019 90TH Percentile monthly ADF plus 1196 EDU (201 gpd/EDU) - Assumes no infiltratin with new EDUs

INPUT DATA

TREATMENT POND CHARACTERISTICS		STORAGE RESERVOIR		IRRIGATION AREA CHARACTERISTICS		CLIMATOLOGICAL FACTORS	
GROSS AREA (ac)	3.2	GROSS AREA (ac)	18.6	DISTRICT DISPOSAL LAND (AC)	80		
WATER SURFACE AREA (ac)	2.9	MAX. WATER SURFACE (ac)	14.2	SOIL WATER DEFICIT BEFORE IRRIGATION (IN)	n/a	OCT-APR EVAP/AVG EVAP RATIO	0.76
				FRACT OF LAND IRRIGATED	n/a	MAY-SEP EVAP/AVG EVAP RATIO	1.00
		STORAGE CAPACITY (MG)	76.43	IRRIGATION EFFICIENCY (DECIMAL FRACT)	n/a	PAN COEFFICIENT	0.80
		FRAC EST. PERC	1.0	FRACTION OF EST. PERC RATE	n/a	LAND PRECIP COLLECTED (FRAC)	0.9

PARAMETER / MONTH	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	ANNUAL
DAYS IN MONTH	30	31	31	28	31	30	31	30	31	31	30	31	365
AVG PAN EVAP (IN)	0.89	0.61	0.76	0.83	2.14	3.69	5.34	6.64	7.63	6.87	5.17	3.05	43.62
ESTIMATED PRECIP (IN)	10.66	20.00	2.84	10.62	21.42	3.37	4.65	1.57	1.66	0.00	1.86	4.35	83.00
ESTIMATED SNOW ACCUM (IN Water)(g)	7.82	23.83	26.08	36.04	53.71	41.62	22.88	0.00	0.00	0.00	0.00	2.96	
ESTIMATED SNOW MELT IN MONTH (IN Water)	0.00	0.00	0.36	0.12	0.71	13.40	21.11	22.88	0.00	0.00	0.00	1.42	60.00
ESTIMATED NEW SNOW IN MONTH (IN Water)	7.82	16.01	2.61	10.08	18.27	1.30	2.37	0.00	0.00	0.00	0.00	1.53	60.00
ESTIMATED MAX PERCOLATION (IN)(a)	10.0	29.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
# OF ADDITIONAL CONNECTIONS (RLU)	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	
ADDITIONAL INFLUENT FLOW (GAL/D)	240,396	240,396	240,396	240,396	240,396	240,396	240,396	240,396	240,396	240,396	240,396	240,396	
90TH PERCENTILE EXISTING FLOWS (Avg. GAL/D)	37,135	77,828	98,766	131,156	125,459	186,046	188,872	127,254	73,229	61,715	38,479	31,386	
TOTAL INFLUENT FLOW (GAL/D)	277,531	318,224	339,162	371,552	365,855	426,442	429,268	367,650	313,625	302,111	278,875	271,782	

CALCULATIONS

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	ANNUAL
WASTEWATER VOLUME (gal)	8,325,930	9,864,944	10,514,022	10,403,456	11,341,505	12,793,260	13,307,308	11,029,500	9,722,375	9,365,441	8,366,250	8,425,242	123,459,233
EVAPORATION (IN)	0.5	0.4	0.5	0.5	1.3	2.2	4.3	5.3	6.1	5.5	4.1	1.9	32.6
PRECIPITATION (IN)	10.66	20.00	2.84	10.62	21.42	3.37	4.65	1.57	1.66	0.00	1.86	4.35	83.00
TREATMENT POND													
PERCOLATION (IN)	8.38	5.41	12.69	7.74	5.73	21.66	15.57	17.29	4.18	2.11	2.81	2.97	106.55
PERC VOLUME (gal)	659,620	426,378	999,502	609,371	451,372	1,705,370	1,226,247	1,361,614	329,361	166,362	221,115	233,864	8,390,176
EVAP. VOLUME (gal)	39,374	31,499	39,374	39,374	102,372	173,244	338,614	417,361	480,359	433,111	322,864	149,620	2,567,166
PRECIP. VOLUME (gal)	917,603	1,721,582	244,465	914,160	1,843,814	290,087	400,268	135,144	142,891	0	160,107	374,444	7,144,564
TREATMENT DISPOSAL(GAIN)/ (gal)	218,609	1,263,705	(794,411)	265,415	1,290,070	(1,588,528)	(1,164,593)	(1,643,831)	(666,829)	(599,473)	(383,872)	(9,040)	(3,812,778)
POLISHING RESERVOIR													
PERCOLATION (IN)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERC VOLUME (gal)	0	0	0	0	0	0	0	0	0	0	0	0	0
W.S. AREA (ac)(b)	6.20	9.38	11.22	11.76	12.28	12.56	11.13	10.91	10.36	10.13	8.53	3.36	
EVAP. VOLUME (gal)	84,162	101,860	152,374	159,611	433,572	750,075	1,299,758	1,570,694	1,716,787	1,513,309	949,396	173,416	8,905,014
PRECIP. VOLUME (gal)	5,032,887	9,615,218	1,379,589	5,174,256	10,466,832	1,649,245	2,257,681	761,343	802,510	0	889,921	2,020,240	40,049,722
MONTHLY AVAIL. SNOWMELT (IN)(c)	0.00	0.00	0.36	0.12	0.71	13.40	21.11	22.88	0.00	0.00	0.00	1.42	60.00
ESTIMATED SNOW CONTR. (%)(d)	0%	0%	0%	0%	0%	0%	45%	28%	50%	50%	50%	50%	
ESTIMATED AREA OF INFLUENCE (ac)	50	50	50	50	50	50	50	50	50	50	50	50	
ESTIMATED INFLUX TO STORAGE (gal)(e)	0	0	0	0	0	0	12,897,727	8,697,780	0	0	0	966,122	22,561,629
RESERVOIR DISPOSAL(GAIN) (gal)	4,948,725	9,513,358	1,227,215	5,014,645	10,033,260	899,170	13,855,650	7,888,429	(914,277)	(1,513,309)	(59,476)	2,812,946	53,706,336
IRRIGATION													
IRRIGATION DISPOSAL (gal)(f)	0	0	0	0	0	0	0	0	10,796,000	22,361,000	17,521,000	11,999,000	62,677,000
STORAGE													
BEGINNING STORAGE (gal)	4,060,000	17,553,265	38,195,271	44,742,097	51,425,613	54,990,448	37,094,350	34,492,715	28,066,813	25,412,082	10,303,741	705,643	
CALCULATED STORAGE GAIN (gal)	13,493,265	20,642,007	10,946,826	15,683,516	22,664,835	12,103,902	25,998,365	17,274,097	-2,654,731	-15,108,340	-9,598,098	-769,852	
PROJECTED ESTIMATED STORAGE (gal)	17,553,265	38,195,271	49,142,097	60,425,613	74,090,448	67,094,350	63,092,715	51,766,813	25,412,082	10,303,741	705,643	0	
AMOUNT DISCHARGED TO BLOODS CREEK (gal)	0	0	4,400,000	9,000,000	19,100,000	30,000,000	28,600,000	23,700,000	0	0	0	0	114,800,000
ESTIMATED STORAGE (gal)	17,553,265	38,195,271	44,742,097	51,425,613	54,990,448	37,094,350	34,492,715	28,066,813	25,412,082	10,303,741	705,643	0	

MAXIMUM STORAGE (MG) 54.99
AVAILABLE STORAGE (MG) 76.43

SUMMARY

ANNUAL INFLOW (MG)	
WASTEWATER	123.46
PRECIPITATION	47.19
SNOW INFLUX (MG)	22.56
TOTAL	193.22

ANNUAL OUTFLOW POTENTIAL (MG)	
AMOUNT DISCHARGED TO BLOODS CREEK	114.80
EVAPORATION	11.47
PERCOLATION	8.39
IRRIGATION	62.68
TOTAL	197.34

OVERALL BALANCE	
UNUSED DISPOSAL CAPACITY (MG) (MUST NOT BE NEGATIVE)	0.06
UNUSED STORAGE CAPACITY (MG) (MUST NOT BE NEGATIVE)	21.44

(a) Estimated percolation based upon measured inflow components, estimated evaporation, and actual reservoir levels in 2011 - in Storage Reservoir only.
(b) Reservoir water surface area is a function of storage volume at start of month.
(c) Estimated snowmelt volume available for influx to storage reservoir.
(d) Estimated percentage of snowmelt contributing to influx to reservoir.
(e) Estimated based on fraction of accumulated snow within reservoir "area of influence" entering the reservoir during snowmelt months.
(f) Disposal capacity based on maximum estimated land disposal volumes.
(g) Per Bloods Creek Gauging Station
(h) Not used in calculations

TABLE 9

BEAR VALLEY WATER DISTRICT WASTEWATER TREATMENT AND DISPOSAL SYSTEM 6/8/2020 9:26

(2020 update - 2016-2017 Precip. Pattern) 1 in 100 Year Water Balance Projection - 2000 thru 2019 90TH Percentile monthly ADF plus 1196 EDU (201 gpd/EDU) - Assumes no infiltratin with new EDUs

INPUT DATA

TREATMENT POND CHARACTERISTICS		STORAGE RESERVOIR		IRRIGATION AREA CHARACTERISTICS		CLIMATOLOGICAL FACTORS	
GROSS AREA (ac)	3.2	GROSS AREA (ac)	18.6	DISTRICT DISPOSAL LAND (AC)	80		
WATER SURFACE AREA (ac)	2.9	MAX. WATER SURFACE (ac)	14.2	SOIL WATER DEFICIT BEFORE IRRIGATION (IN)	n/a	OCT-APR EVAP/AVG EVAP RATIO	0.76
				FRACT OF LAND IRRIGATED	n/a	MAY-SEP EVAP/AVG EVAP RATIO	1.00
		STORAGE CAPACITY (MG)	76.43	IRRIGATION EFFICIENCY (DECIMAL FRACT)	n/a	PAN COEFFICIENT	0.80
		FRAC EST. PERC	1.0	FRACTION OF EST. PERC RATE	n/a	LAND PRECIP COLLECTED (FRAC)	0.9

PARAMETER / MONTH	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	ANNUAL
DAYS IN MONTH	30	31	31	28	31	30	31	30	31	31	30	31	365
AVG PAN EVAP (IN)	0.89	0.61	0.76	0.83	2.14	3.69	5.34	6.64	7.63	6.87	5.17	3.05	43.62
ESTIMATED PRECIP (IN)	2.93	7.84	28.46	21.98	5.29	8.57	1.01	1.76	0.31	1.67	2.76	0.42	83.00
ESTIMATED SNOW ACCUM (IN Water)(g)	2.23	4.46	27.12	42.39	39.69	38.40	0.00	0.00	0.00	0.00	0.00	0.00	
ESTIMATED SNOW MELT IN MONTH (IN Water)	0.81	1.04	0.00	1.27	8.11	10.19	37.88	0.00	0.00	0.00	0.00	0.70	60.00
ESTIMATED NEW SNOW IN MONTH (IN Water)	2.88	3.11	21.41	15.64	5.21	8.54	0.00	0.00	0.00	0.00	0.00	3.21	60.00
ESTIMATED MAX PERCOLATION (IN)(a)	10.0	29.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
# OF ADDITIONAL CONNECTIONS (RLU)	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	
ADDITIONAL INFLUENT FLOW (GAL/D)	240,396	240,396	240,396	240,396	240,396	240,396	240,396	240,396	240,396	240,396	240,396	240,396	
90TH PERCENTILE EXISTING FLOWS (Avg. GAL/D)	37,135	77,828	98,766	131,156	125,459	186,046	188,872	127,254	73,229	61,715	38,479	31,386	
TOTAL INFLUENT FLOW (GAL/D)	277,531	318,224	339,162	371,552	365,855	426,442	429,268	367,650	313,625	302,111	278,875	271,782	

CALCULATIONS

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	ANNUAL
WASTEWATER VOLUME (gal)	8,325,930	9,864,944	10,514,022	10,403,456	11,341,505	12,793,260	13,307,308	11,029,500	9,722,375	9,365,441	8,366,250	8,425,242	123,459,233
EVAPORATION (IN)	0.5	0.4	0.5	0.5	1.3	2.2	4.3	5.3	6.1	5.5	4.1	1.9	32.6
PRECIPITATION (IN)	2.93	7.84	28.46	21.98	5.29	8.57	1.01	1.76	0.31	1.67	2.76	0.42	83.00
TREATMENT POND													
PERCOLATION (IN)	8.38	5.41	12.69	7.74	5.73	21.66	15.57	17.29	4.18	2.11	2.81	2.97	106.55
PERC VOLUME (gal)	659,620	426,378	999,502	609,371	451,372	1,705,370	1,226,247	1,361,614	329,361	166,362	221,115	233,864	8,390,176
EVAP. VOLUME (gal)	39,374	31,499	39,374	39,374	102,372	173,244	338,614	417,361	480,359	433,111	322,864	149,620	2,567,166
PRECIP. VOLUME (gal)	252,212	674,860	2,449,811	1,892,018	455,358	737,698	86,940	151,499	26,685	143,752	237,578	36,153	7,144,564
TREATMENT DISPOSAL(GAIN)/ (gal)	(446,782)	216,983	1,410,935	1,243,273	(98,386)	(1,140,917)	(1,477,921)	(1,627,476)	(783,036)	(455,721)	(306,401)	(347,331)	(3,812,778)
POLISHING RESERVOIR													
PERCOLATION (IN)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERC VOLUME (gal)	0	0	0	0	0	0	0	0	0	0	0	0	0
W.S. AREA (ac)(b)	6.20	9.01	10.49	12.22	13.34	13.11	12.41	12.23	10.59	10.29	8.88	6.10	
EVAP. VOLUME (gal)	84,162	97,827	142,398	165,937	470,867	783,345	1,448,972	1,760,416	1,754,119	1,536,916	988,934	314,810	9,548,703
PRECIP. VOLUME (gal)	1,383,336	3,761,261	13,768,250	10,736,865	2,600,122	4,207,034	493,883	859,780	150,056	807,011	1,323,189	198,183	40,288,970
MONTHLY AVAIL. SNOWMELT (IN)(c)	0.81	1.04	0.00	1.27	8.11	10.19	37.88	0.00	0.00	0.00	0.00	0.70	60.00
ESTIMATED SNOW CONTR. (%)(d)	100%	100%	100%	100%	40%	40%	30%	0%	0%	0%	0%	0%	
ESTIMATED AREA OF INFLUENCE (ac)	50	50	50	50	50	50	50	50	50	50	50	50	
ESTIMATED INFLUX TO STORAGE (gal)(e)	1,099,749	1,412,023	0	1,724,297	4,404,425	5,534,043	15,429,065	0	0	0	0	0	29,603,603
RESERVOIR DISPOSAL(GAIN) (gal)	2,398,923	5,075,457	13,625,852	12,295,225	6,533,680	8,957,733	14,473,976	(900,636)	(1,604,063)	(729,905)	334,255	(116,627)	60,343,870
IRRIGATION													
IRRIGATION DISPOSAL (gal)(f)	0	0	0	0	0	0	0	0	10,796,000	22,361,000	17,521,000	11,999,000	62,677,000
STORAGE													
BEGINNING STORAGE (gal)	4,060,000	14,338,071	29,495,455	50,646,264	65,588,219	62,465,019	53,075,095	50,778,458	30,679,846	27,219,122	13,037,937	3,911,041	
CALCULATED STORAGE GAIN (gal)	10,278,071	15,157,384	25,550,810	23,941,954	17,776,800	20,610,076	26,303,363	8,501,388	-3,460,724	-14,181,185	-9,126,896	-4,037,716	
PROJECTED ESTIMATED STORAGE (gal)	14,338,071	29,495,455	55,046,264	74,588,219	83,365,019	83,075,095	79,378,458	59,279,846	27,219,122	13,037,937	3,911,041	0	
AMOUNT DISCHARGED TO BLOODS CREEK (gal)	0	0	4,400,000	9,000,000	20,900,000	30,000,000	28,600,000	28,600,000	0	0	0	0	121,500,000
ESTIMATED STORAGE (gal)	14,338,071	29,495,455	50,646,264	65,588,219	62,465,019	53,075,095	50,778,458	30,679,846	27,219,122	13,037,937	3,911,041	0	

MAXIMUM STORAGE (MG) 65.59

AVAILABLE STORAGE (MG) 76.43

SUMMARY

ANNUAL INFLOW (MG)	
WASTEWATER	123.46
PRECIPITATION	47.43
SNOW INFLUX (MG)	29.60
TOTAL	200.50

ANNUAL OUTFLOW POTENTIAL (MG)	
AMOUNT DISCHARGED TO BLOODS CREEK	121.50
EVAPORATION	12.12
PERCOLATION	8.39
IRRIGATION	62.68
TOTAL	204.68

OVERALL BALANCE	
UNUSED DISPOSAL CAPACITY (MG) (MUST NOT BE NEGATIVE)	0.13
UNUSED STORAGE CAPACITY (MG) (MUST NOT BE NEGATIVE)	10.84

(a) Estimated percolation based upon measured inflow components, estimated evaporation, and actual reservoir levels in 2011 - in Storage Reservoir only.

(b) Reservoir water surface area is a function of storage volume at start of month.

(c) Estimated snowmelt volume available for influx to storage reservoir.

(d) Estimated percentage of snowmelt contributing to influx to reservoir.

(e) Estimated based on fraction of accumulated snow within reservoir "area of influence" entering the reservoir during snowmelt months.

(f) Disposal capacity based on maximum estimated land disposal volumes.

(g) Per Bloods Creek Gauging Station

(h) Not used in calculations

PROFESSIONAL SERVICES AGREEMENT CHANGE ORDER

Change Order #	1.	Date	4 August 2021

"Stantec" Stantec Consulting Services Inc.

Stantec Project # 184031289.

3875 Atherton Road, Rocklin, CA 95765
Ph: (916) 773-8100
email: Steven L. Beck; steven.beck@stantec.com

Client Bear Valley Water District

Client Project #

441 Creekside Drive, P.O. Box 5027, Bear Valley, CA 95223
Ph: (209) 753-2112
email: Jeff Gouveia; Jeff.Gouveia@bvwd.ca.gov

Project Name and Location: Bear Valley Water District NPDES Permit Renewal

In accordance with the original Professional Services Agreement dated 18 March 2020 and Change Orders thereto, the Agreement changes as detailed below are hereby authorized.

The total amount of this authorization is anticipated to be expended on the tasks as identified in the attached proposal letter dated July 21, 2021 as the Scope of Services.

This change order shall not exceed **$12,000.00** without prior written authorization by the CLIENT.

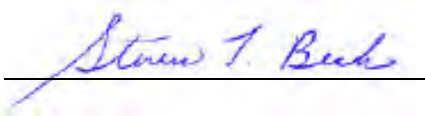
	Total fees this Change Order	1		$	12,000.00
	Original agreement amount			$	30,000.00
	Total Agreement			**$**	**42,000.00**

Effect on Schedule: Contract end date extended to December 31, 2021

Payments shall be made in accordance with the original agreement terms. All other items and conditions of the original Agreement shall remain in full force and effect.

Stantec Consulting Services Inc.

Steven L. Beck, Principal
Print Name and Title

Signature 

Date Signed: 8/4/2021

Bear Valley Water District

Jeff Gouveia, General Manager
Print Name and Title

Signature

Date Signed:

DIR #1000815105

PROPOSAL

John T. Watts Construction
P.O. Box 1173
Twain Harte, CA 95383
License # 363665
P.O. Box 1173 Twain Harte, CA 95383
(209) 586-4841 or (209) 586-7101 Fax
email: johntw1@sbcglobal.net

Proposal Submitted to:	Phone:	Date:
Bear Valley Water District	(209) 753-2112	08-23-21

Street	Job Name
441 Creekside Drive **Bear Valley, CA 95223**	**Tesla Sewer Plant**

Engineer:	**Job Address:**
Mike Smith Engineering, Inc.	Bear Valley, CA

We propose to construct a building located at the Sewer Plant in Bear Valley off Hwy. 4. The physical location on the drawing is 441 Creekside Dr. which is the office in town. Work to be done is as per drawing drawn by Mike Smith Engineering of 4 North Street, Lodi, CA. Drawings include sheets : CS A1,A2,S1,S2 dated 8-17-21. We are to construct the foundation, block walls, slab, steel frame to support the roof, frame and finish roof structure, install metal roofing, paint wood exposed members, and clean up after work is completed.

This job is being performed as Time & Material plus 7% profit and 7% overhead. Labor: $75.00/hr. And material at invoice cost. Additional work or changes will be charged at the same rate. Payment to be bi-weekly for work completed to date. All labor, time and sub-contractor cost plus material invoices will be supplied with the bill. Contractor percentage will be charged on each bi-weekly billing.

ESTIMATED PRICE OF THE JOB: $82,943.00

Payments not received as per proposal will be subject to a charge of 1.5 % per month (18 % annually) All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire and any necessary insurance. Our workers are fully covered by Workers Compensation Insurance.

"No Contractor or sub-contractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 (with limited exceptions from this requirement for bid purposes only under Labor Code Sec. 1771.1. No Contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after 4-1-15) unless registered with the Dept. of Industrial Relations pursuant to Labor code Sec. 1725.5 This project is subject to compliance monitoring & enforcement by the Dept. of Industrial Rel.

Every contractor will be required to secure the payment of workers comp. To his or her employees. Labor Code Section 1860. The contractor shall post the applicable prevailing wage rate on the project site. Labor

Section 17714. The project is subject to prevailing wage. The applicable the wage rates are available at www.dir.ca.gov" and the agency also has access to the applicable prevailing wage rate at the City's Department of Public Works Department.

ACCEPTANCE OF PROPOSAL:

DATE: 8-26-25 **SIGNATURE:** _____

DATE: 8-26-25 **AUTHORIZED SIGNATURE:** _____

Cal OES Community Power Resiliency Allocation		kWh / Month	kWh / Day	13.2 kWh/Powerwall	Days Energized
Admin Powerwall (6) - $11,585/wall	68,009	434	14.47	79.2	5.47
BG Powerwall (2) - $13,360/wall	29,349	78	2.6	26.4	10.15
MPS Generator - 60 kW (incl tax + temp rental)	52,228				
LABR Generator - 40 kW (incl tax + temp rental)	47,610				
Treatment Plant Battery System	34,710				
Radio Telemetry	68,094				
Total	**300,000**				

Estimated BVWD Contribution to Batt Structure	43,033

$11,585/powerwall

$13,360/powerwall

77743

10 yr warranty - $1000 O&M Lifetime

10 yr warranty - $1000 O&M Lifetime

COVID-19 Fiscal Relief for Special Districts

September 27, 2021

Objectives

- Allocation Overview
- Application and Distribution Process
- Disbursement Timeline
- Using the Web Portal
- Questions and Answers

Allocation Overview: Budget Appropriation

- The 2021 Budget Act appropriated $100 million one-time General Fund to provide fiscal relief to independent special districts.

- Mitigate the effects of revenue losses or unanticipated costs incurred due to the COVID-19 public health emergency

Allocation Overview: Eligibility Requirements

- Must be designated as an **independent special district** by the State Controller's Office (SCO)

- Have not received other forms of COVID-19 fiscal relief **directly** from the state or federal government.
  - Exception for FEMA reimbursements
  - If your district plans to apply for the water and utility arrearages program, you cannot apply for these funds.

COVID-19 Fiscal Relief for Special Districts

The 2021 Budget Act appropriated $100 million one-time General Fund to provide fiscal relief to **independent special districts** for revenue losses or unanticipated costs incurred due to the COVID-19 public health emergency. Funds are reserved for districts that have not received other forms of COVID-19 fiscal relief directly from the state or federal government. **Districts are still eligible to apply if they have received or intend to receive FEMA reimbursements.** Each qualifying district that applies will receive an allocation based on its proportionate share of the total unanticipated costs and revenue losses incurred by all districts during the following eligible periods:

- **Revenue Losses**—Revenue losses, from all fund sources, incurred due to the COVID-19 public health emergency during the 2020-21 fiscal year, compared to the revenue from all fund sources in the 2018-19 fiscal year (which serves as the base period to which the revenues will be compared).
- **Unanticipated Costs**—Unanticipated costs incurred due to the COVID-19 public health emergency during the period starting March 4, 2020 and ending June 15, 2021. This aligns with similar federal fiscal reporting timeframes.

IF you are an **independent special district** that would like to apply for an allocation, please submit the following information:

1 **Please provide the name of your special district.**

Special district name

BEAR VALLEY WATER DISTRICT

2 **Please check the box below to certify your special district is classified by the State Controller's Office as an independent special district.**

☑

3 **Please provide the county in which your special district is located.**

Select County: Alpine

4 **Please provide your special district's 2018-19 total revenue from all fund sources. (whole dollars)**

2018-19 total revenue

796,541

5 **Please provide your special district's 2020-21 total revenue from all fund sources. (whole dollars)**

2020-21 total revenue

780,898

6 Please provide the following information for the covered period beginning on March 4, 2020 and ending on June 15, 2021. (whole dollars)

a. Unanticipated costs

Unanticipated costs

13,377

b. FEMA Eligible costs

FEMA Eligible costs

0

7 Please provide the following information for your special district's authorized representative:

a. Name

JEFF GOUVEIA

b. Title

GENERAL MANAGER

c. Email address

Authorized representative's email

jeff.gouveia@bvwd.ca.gov

d. Phone number

Authorized representative's phone number

(209) 753-2112

8 Please provide the following information for your special district's alternate contact person:

a. Name

Alternate contact person's name

JUDI SILBER

b. Title

Alternate contact person's job title

OFFICE MANAGER

c. Email address

Alternate contact person's email

judi.silber@bvwd.ca.gov

d. Phone number

Alternate contact person's phone number

(209) 753-2112

9 **Please provide the following information for the person submitting this form.**

a. Name

Name of the person submitting this form

JEFF GOUVEIA

b. Title

Job title of the person submitting this form

GENERAL MANAGER

c. Email address

Email of the person submitting this form

jeff.gouveia@bvwd.ca.gov

d. Phone number

Phone number of the person submitting this form

(209) 753-2112

10 ☑ I certify that this information is accurate and that I am authorized by my employer to submit this information

11

- [x] I certify my special district has not received any form of COVID-19 fiscal relief directly from the state or federal government and does not intend to apply for the California Arrearage Payment Program or the California Water and Wastewater Arrearage Program.

Submit

STANDARD DETAILS

1. STANDARD CONSTRUCTION SEWER NOTES
2. TYPICAL TRENCH DETAIL
    a. ROADWAY
    b. OFF ROAD
    c. BEDDING / BACKFILL
    d. TRENCH CUTOFF
3. SEWER SERVICE LATERAL
4. STANDARD MANHOLE
    a. CONCENTRIC CONE
    b. ECCENTRIC CONE
5. STANDARD DROP MANHOLE
    a. INSIDE DROP
    b. OUTSIDE DROP
6. STANDARD SHALLOW MANHOLE
7. PRECAST CONCRETE MANHOLE BASE
8. POURED IN PLACE CONCRETE BASE
9. MANHOLE BREAK-IN CONNECTION DETAIL
10. MANHOLE COVER
    a. STANDARD
    b. BOLT DOWN
11. SERVICE LATERAL CLEANOUT
12. FLUSHING BRANCH CLEANOUT& ASSEMBLY
13. UTILITY CROSSING DETAILS
14. CONCRETE ENCASEMENT DETAIL
15. FORCE MAIN CONNECTION DETAILS
16. FORCE MAIN COMBINATION AIR VALVE ASSEMBLY
17. STANDARD PUMP STATION DESIGN & DETAILS
18. STANDARD GREASE TRAP & SAMPLING BOX

NOTES:

1. ALL SEWER SYSTEM CONSTRUCTION SHALL CONFORM TO THESE STANDARD DRAWINGS AND CALTRANS STANDARD SPECIFICATIONS (MOST CURRENT EDITION) AND TO THE STANDARD SPECIFICATIONS OF THE DISTRICT.

2. PRIOR TO CONSTRUCTION, THE CONTRACTOR (OWNER) SHALL PAY ALL CONNECTION & INSPECTION FEE DUE TO THE DISTRICT. THE CONTRACTOR SHALL BE IN RECEIPT OF THE APPLICABLE STANDARD DRAWINGS FOR A COMPLETE UNDERSTANDING OF REQUIRED MATERIALS AND CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE THE DISTRICT WITH A MINIMUM OF A 72 HOUR NOTICE IN ADVANCE OF THE START OF CONSTRUCTION FOR INSPECTIONS.

4. ALL SEWER LATERAL SHALL BE INSTALLED TO HAVE A MINIMUM OF THREE (3) FEET OF COVER IN THE ROADWAY OR THE FLOW LINE OF THE ROADSIDE DITCH, WHICHEVER IS LOWER. IN NO CASE WILL THE EXTENSION OF THE SEWER LATERAL BE LESS THAN THREE (3) FEET AS MEASURED AT THE PROPERTY LINE, OR ROADWAY EASEMENT.

5. ALL SEWER MAINS SHALL HAVE A MINIMUM COVER OF THIRTY-SIX INCHES (36") MEASURED FROM THE TOP OF PIPE TO THE SUB-GRADE OF THE EXISTING OR NEW ROADWAY, UNLESS OTHERWISE APPROVED BY THE DISTRICT.

6. ALL SEWER MAINS SHALL BE A MINIMUM OF EIGHT (8) INCHES IN DIAMETER PVC AND CONFORM TO A.S.T.M. D-3034, SDR-26, UNLESS OTHERWISE APPROVED. ALL SEWER MAINS CROSSING WATER MAINS ARE TO BE AWWA C900 - CLASS 200 PIPE OR BETTER. ALL PRESSURE SEWER PIPE SHALL BE PVC CLASS 200, UNLESS OTHERWISE APPROVED.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATING AND PROTECTING OF ALL UNDERGROUND FACILITIES AFFECTED BY THE WORK AND SHALL CONTACT UNDERGROUND SERVICES ALERT (USA) FOR DETERMINATION AND LOCATION OF UNDERGROUND UTILITIES 48 HOURS IN ADVANCE OF ANY EXCAVATION WORK.

8. WHERE EXCAVATION EXCEEDS 5 FEET IN DEPTH FOR ANY FACILITIES CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM CAL/OSHA.

9. ALL SEWER LATERAL SHALL BE FOUR (4) INCH INSIDE DIAMETER, UNLESS OTHERWISE NOTED.

10. SEWER LATERALS SHALL HAVE SAME BEDDING AND BACKFILL AS SEWER MAINS.

11. THE CONTRACTOR SHALL VERIFY THE DEPTH OF ALL SEWER LATERALS AND SHALL NOTIFY THE ENGINEER IF ANY LATERALS CANNOT MET THE REQUIRED MINIMUM COVER PRIOR TO INSTALLATION.

12. ALL WATER AND SEWER MAINS SHALL MAINTAIN A MINIMUM OF 10'-0" HORIZONTAL CLEARANCE AND A 1'-0" VERTICAL CLEARANCE.

13. ALL MANHOLE BARRELS, CONES, AND GRADE RISERS SECTIONS SHALL BE REINFORCED IN ACCORDANCE WITH THE REQUIREMENTS OF THE REINFORCED CONCRETE SECTION, ASTM C 478-75.

14. ALL MANHOLE JOINTS SHALL BE SEALED WITH A PREFORMED, ROPE-LIKE, READY TO USE, COLD-APPLIED, PERMANENTLY ADHESIVE AND FLEXIBLE, PLASTIC JOINT SEALING COMPOUND, (K.T.SNYDER CO. INC., RAM-NEK OR EQUIVALENT).

15. ALL SEWER MAINS SHALL BE BALLED, MANDREL, TELEVISION INSPECTED AND AIR TESTED PRIOR TO ACCEPTANCE BY THE DISTRICT. ALL SEWER MANHOLES SHALL BE VACUUM TESTED PRIOR TO ACCEPTANCE BY THE DISTRICT.

16. ALL MANHOLE LIDS SHALL HAVE BLIND HOLES FOR LIFTING. PICK HOLES WILL NOT BE ALLOWED. ALL MANHOLES SHALL HAVE A GASKET USING FLAT GASKETS. "O" RINGS WILL NOT BE ALLOWED.

17. SEWER MAIN INSTALLATIONS ON A RADIUS SHALL BE ACCOMPLISHED BY BENDING PIPE NOT LESS THAN THE MANUFACTURER'S RECOMMENDATION OR AS ALLOWED IN THE SPECIFICATIONS, WHICHEVER IS GREATER. NO AXIAL DEFLECTIONS AT THE PIPE JOINTS WILL BE ALLOWED.

18. FOR DEEP DROP MAIN LINES AT MANHOLES, PROVIDE PVC COUPLING WITH STAINLESS STEEL STRAPS AND STAINLESS STEEL ANCHORS WITHIN 6" OF THE TOP AND BOTTOM AND 4'-0" ON CENTER MAXIMUM SPACING.

SEWER NOTES

DRAWN BY: JTY	SCALE: N.T.S.	DRAWING NO.: SS-1	bear valley WATER DISTRICT
APPROVED: MSO	DATE: JUNE 2021		

REV No.:	DATE:	BY:

Aqua Sierra Controls, Inc.
1650 Industrial Drive, Auburn, CA 95603
Cell (530) 305-3390 Office (530) 823-3241
jlane@aquasierra.com www.aquasierra.com
CA Contractors License A, C-10 474023
CA Small Business Certification #1162
CA DIR #1000003631

IT Services - SCADA – UL508 Panel Shop – Pump Controllers
NIST Traceable Instrument Calibrations & Maintenance

Bear Valley

Attention: Mr. Jeff Gouveia
Phone: 209-743-0836

Subject: Proposal & Scope of Work
Project: Networking Project

Proposal # QJ07255
September 29, 2021

Mr. Gouveia,

The following is our scope of work and proposal to separate the SCADA network from the district network and to add anti-virus software to your workstations. Thank you for the opportunity.

Equipment

- Workstation with Windows 10 Pro, Keyboard, Mouse and Monitor
- 15 Vipre Anti-Virus Seats
- Miscellaneous Cables

Scope of Work

- Separate SCADA network from district network.
- Install and setup anti-virus on si workstations
- Install and setup new workstation

Proposal Total $4,555.07 (Cash, Check, ACH, Wire Transfer)

Inclusions

- Shipping and handling
- Sales tax
- Travel and mileage
- Hotels and meals

Exclusions

- Items not in our scope of work
- Specialty insurance beyond our standard two million dollars coverage
- Bonds, fees or permits
- Prevailing wage rates
- NETA testing
- Union requirements or signatories
- Arc flash study or short circuit analysis
- Third party testing

Please let me know if you have any questions.

Thank you,

Josh Lane
Sales Manager

AQUA SIERRA
CONTROLS

8 Cyber Security Best Practices For Your Small To Medium-Size Business

coxblue.com/8-cyber-security-best-practices-for-your-small-to-medium-size-business-smb/

8 Cyber Security Best Practices for Business

It's easy to think that because you have a small business, cybercriminals will pass over attacking your company. The "not much to steal" mindset is common with small business owners in regards to cyber security, but it is also completely incorrect and out of sync with today's cyber security best practices.

In reality, the U.S. Congressional Small Business Committee found that 71 percent of cyber-attacks happened at businesses with less than 100 employees. Even more concerning, the 2016 State of SMB CyberSecurity Report by Ponemon and @Keeper found that 50 percent of SMBs have had a security breach in the past year.

But why are small businesses attacked more often than larger businesses? Almost all cyber-attacks are to obtain personal data to use in credit card or identify theft. While larger enterprises typically have more data to steal, small businesses have less secure networks, making it easier to breach the network. CSO.com by IDG's article "Why criminals pick on small businesses" says that by using automated attacks, cybercriminals can breach thousands or more small businesses, making the size less of an issue than the network security.

The CSO.com article says that lack of time, budget and expertise for proper security is a top reason for the high rate of SMB attacks. Other reasons include not having an IT security specialist, not being aware of the risk, lack of employee training, not updating security programs, outsourcing security and failure to secure endpoints.

How can your business avoid being a victim of a cyber-attack? Here are 8 cybersecurity best practices for business you can begin to implement today.

Learn how Cox Business can help protect your business. Learn More

1. Use a firewall

One of the first lines of defense in a cyber-attack is a firewall. The Federal Communications Commission (FCC) recommends that all SMBs set up a firewall to provide a barrier between their data and cybercriminals. In addition to the standard external firewall, many companies are starting to install internal firewalls to provide additional protection. It's also important that employees working from home install a firewall on their home network as well. Consider providing firewall software and support for home networks to ensure compliance.

2. Document your cybersecurity policies

While small businesses often operate by word of mouth and intuitional knowledge, cyber security is one area where it is essential to document your protocols. The Small Business Administration (SBA)'s Cybersecurity portal provides online training, checklists, and information specific to protect online businesses. The FCC's Cyberplanner 2.0 provides a starting point for your security document. Consider also participating in the C3 Voluntary Program for Small Businesses, which contains a detailed toolkit for determining and documenting cyber security best practices and cyber security policies.

3. Plan for mobile devices

With 59 percent of businesses currently allowing BYOD, according to the Tech Pro Research 2016 BYOD, Wearables and IoT: Strategies Security and Satisfaction, it is essential that companies have a documented BYOD policy that focuses on security precautions. With the increasing popularity of wearables, such as smart watches and fitness trackers with wireless capability, it is essential to include these devices in a policy. Norton by Symantec also recommends that small businesses require employees to set up automatic security updates and require that the company's password policy apply to all mobile devices accessing the network.

4. Educate all employees

Employees often wear many hats at SMBs, making it essential that all employees accessing the network be trained on your company's network cyber security best practices and security policies.

Since the policies are evolving as cybercriminals become savvier, it's essential to have regular updates on new protocols. To hold employees accountable, have each employee sign a document stating that they have been informed of the policies and understand that actions may be taken if they do not follow security policies.

5, Enforce safe password practices

Yes, employees find changing passwords to be a pain. However, the Verizon 2016 Data Breach Investigations Report found that 63 percent of data breaches happened due to lost, stolen or weak passwords. According to the Keeper Security and Ponemon Institute Report, 65 percent of SMBs with password policies do not enforce it. In today's BYOD world, it's essential that all employee devices accessing the company network be password protected.

In the Business Daily article "Cybersecurity: A Small Business Guide," Bill Carey, vice president of marketing and business development at Siber Systems, recommended that employees be required to use passwords with upper- and lowercase letters, numbers and symbols. He says that SMBs should require all passwords to be changed every 60 to 90 days.

6. Regularly back up all data

While it's important to prevent as many attacks as possible, it is still possible to be breached regardless of your precautions. The SBA recommends backing up word processing documents, electronic spreadsheets, databases, financial files, human resources files, and accounts receivable/payable files. Be sure to also back up all data stored on the cloud. Make sure that backups are stored in a separate location in case of fire or flood. To ensure that you will have the latest backup if you ever need it, check your backup regularly to ensure that it is functioning correctly.

7. Install anti-malware software

It's easy to assume that your employees know to never open phishing emails. However, the Verizon 2016 Data Breach Investigations Report found that 30 percent of employees opened phishing emails, a 7 percent increase from 2015. Since phishing attacks involve installing malware on the employee's computer when the link is clicked, it's essential to have anti-malware software installed on all devices and the network. Since phishing attacks often target specific SMB employee roles, use the position-specific tactics outlined in the Entreprenuer.com article "5 Types of Employees Often Targeted by Phishing Attacks" as part of your training.

8. Use multifactor identification

Regardless of your preparation, an employee will likely make a security mistake that can compromise your data. In the PC Week article "10 Cyber Security Steps Your Small Business Should Take Right Now," Matt Littleton, East Regional Director of Cybersecurity and Azure Infrastructure Services at Microsoft, says using the multi-factor identification settings on most major network and email products is simple to do and provides an extra layer of protection. He recommends using employees' cell numbers as a second form, since it is unlikely a thief will have both the PIN and the password.

Security is a moving target. The cyber criminals get more advanced every day. In order to protect your data as much as possible, it's essential that each and every employee make cyber security a top priority. And most importantly, that you stay on top of the latest trends for attacks and newest prevention technology. Your business depends on it.

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Chelsea Segal

Chelsea Segal is the CEO of Targetwise. TARGETWISE empowers agencies, brands + marketers with results-oriented solutions that grow, nurture + maintain a social ecosphere.

Neutralizing all digital channels, we accelerate performance by applying data driven optimizationin real-time across a superior blend of mobile, video,display and email inventory. Converting the right people at the right time, we drive brand solutions, while securing optimal impact, engagement + results.

UTILITY SERVICE PROVIDER QUESTIONNAIRE

De Novo Planning Group (De Novo) is under contract with Alpine County to update its Housing Element for the 6th Cycle Planning Period (2019-2023). As part of the Housing Element Update, a Site Infrastructure Analysis is needed to better understand site specific constraints limiting housing development in the County. As a utility service provider (i.e., wastewater, water), please provide responses to the following questions to help Alpine County ascertain the present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies including needs or deficiencies related to sewers and municipal and industrial water.

Utility Service Provider Information

Agency Name: Bear Valley Water District ***Contact Person(s):*** Jeff Gouveia

Telephone No.: (209) 753-2112 ***Email***: jeff.gouveia@bvwd.ca.gov ***Service(s) Provided:*** Wastewater Service

Review of Available/Obtained Documents: De Novo has found the following reports related to Bear Valley Water District's (BVWD's) wastewater service:

- Third Tri-Annual 2020 Groundwater Monitoring Report (Dated: December 7, 2020),
- 2020 Annual Report: Order #5-01-208 (Dated: January 26, 2021);
- 2020 Annual Operations Report (Dated: January 30, 2021); and
- District Capacity and Buy-In Fee Calculation Update (Dated: January 9, 2018).

Based on a review of the available/obtained reports above, it is De Novo's understanding that the Bear Valley Water District provides sanitary sewer collection, treatment and disposal services for approximately 650 residential and commercial equivalent dwelling units (EDUs) in the Alpine County community of Bear Valley. The BVWD's service area is comprised of approximately 3000 acres located primarily north of California State Highway 4. The BVWD's wastewater treatment and disposal facility (WWTF) is regulated by the Central Valley Regional Water Quality Control Board (Regional Board) under Waste Discharge Requirements (WDRs) Order No. 5-01-208 and Order No. R5-2019-0078.

Preliminary treatment at the BVWD's main pump station (headworks) consists of shredding (comminutor) and grit removal before the influent reaches the primary sedimentation tank where the settable solids are allowed to fall to the bottom of the tank. The disinfected effluent is then placed into storage and receives further treatment in a 76.4 MG effluent polishing reservoir. During the irrigation season, typically late spring through early autumn, the polished effluent is disposed through spray irrigation on up to approximately 80 acres of sprayfields: 40 acres of land which is authorized by Special Use Permit (SUP) from the United States Forest Service and 40 acres under private lease through 2048.

Effluent disposal via spray irrigation involves the disbursement of the effluent through low impact, high uniformity, Nelson sprinkler heads upon soils and vegetation within the disposal area. At the beginning of the 2020 land disposal season, initiated June 2, 2020, the District had approximately 32.30 MG of effluent in storage and spray field areas 1 through 9 (32.90 total acres) were placed into operation. The average monthly application

rates to the 32.90-acre spray field area during the peak disposal months of 2020 ranged from approximately 2.721 – 8.398 MG per month (0.083 MG – 0.255 MG per acre per month).

In addition to effluent disposal via spray irrigation, the BVWD's NPDES Permit contains Final Effluent Limitations on the discharge from the storage reservoir (EFF-001) as well as receiving water limitations to Bloods Creek. In 2007 the outfall project was completed to allow discharge pursuant to the BVWD's current NPDES Permit (WDRs Order No. R5-2019-0078 (adopted as amended 20 December 2019), which requires a minimum dilution ratio of 20:1 as a daily average and prohibits discharges to Bloods Creek between July 1 and December 31 each year. During the discharge period of January 1 to June 30, 2020, the District did not discharge effluent to Bloods Creek.

During the 2020 water year (October 2019 to September 2020), an annual daily average flow of approximately 0.051 million gallons per day (MGD) (approximately 18.55 MG total) was received at the District WWTF. WDRs Order No. 5-01-208 currently limit influent flow to 0.1 MGD (annual average basis) (BVWD, 2021). According to the BVWD's 2020 Annual Report, BVWD estimates it has disposal capacity available to serve 1,196 new equivalent dwelling units (EDUs), assuming no infiltration associated with any new connections. BVWD defines an EDU as a residential living unit equal to three sewer service units and defines a sewer service unit as one kitchen or full or half bath, or equivalent.

Questionnaire

Please provide answers to the following questions as it relates to BVWD's wastewater service. If the above description of BVWD's wastewater service is still accurate and the most up-to-date information available, please note so below. Additionally, please provide any additional reports or documentation related to BVWD's wastewater service that are not identified above that would be useful in preparing the Site Infrastructure Analysis and Housing Element Update.

1. What are the existing service boundaries of the agency?

_____

_____

_____

_____

2. What is the number of existing service connections?

_____

_____

3. What is the existing utility infrastructure (e.g., number of wells, wastewater treatment plants, etc.), and where do services currently terminate? If available, please provide a map of the existing utility system infrastructure.

_____

_____

_____

_____

4. What is the existing capacity of the service system, and what is the actual use or demand?

_____
_____
_____
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5. Are there any planned or proposed upgrades to the service system that would increase overall capacity or reliability?

No_____ Yes_____ If yes, please explain below and identify the estimated completion of each proposed improvement and how it would increase capacity or reliability:

_____
_____
_____
_____
_____

6. Have there been any issues (recent or historical) with adequate water quality or contamination of surface water/groundwater?

No_____ Yes_____ If yes, please explain and identify whether the issue has been resolved:

_____
_____
_____
_____
_____

7. What is the existing per unit development impact fees (i.e., connection fees) for single-family and multi-family developments?

Single-Family: _____ per unit Multi-family: _____ per unit

Assumptions/Comments:_____
_____
_____
_____
_____

8. Are there any areas in the service boundary or adjacent to the service boundary where existing circumstances make future development or future expansions to the service area boundary unlikely?

No_____ Yes_____ If yes, please explain below:

_____
_____
_____
_____

9. Are there any deficiencies in agency capacity to meet service needs of existing development within its existing service boundary?

No_____ Yes_____ If yes, please explain below:

_____
_____
_____
_____
_____

10. Are there any present or planned land uses in the service area that would create the need for infrastructure improvements?

No_____ Yes_____ If yes, please explain below:

_____
_____
_____
_____

11. Are there any natural or man-made obstructions that would impact where services can reasonably be extended to or impact the density/intensity of future developments?

No_____ Yes_____ If yes, please explain below:

_____
_____
_____
_____
_____

12. Are there any issues regarding the agency's capacity to meet the service demand of reasonably foreseeable future growth? Specifically, could the existing infrastructure support new residential developments, and if so, what types of residential developments?

No_____ Yes_____ Please explain:

_____
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13. Are there any significant infrastructure needs or deficiencies to meet the service demands of future development? No _____ Yes_____

If you checked yes, how would these infrastructure/service needs or deficiencies limit new development?

_____
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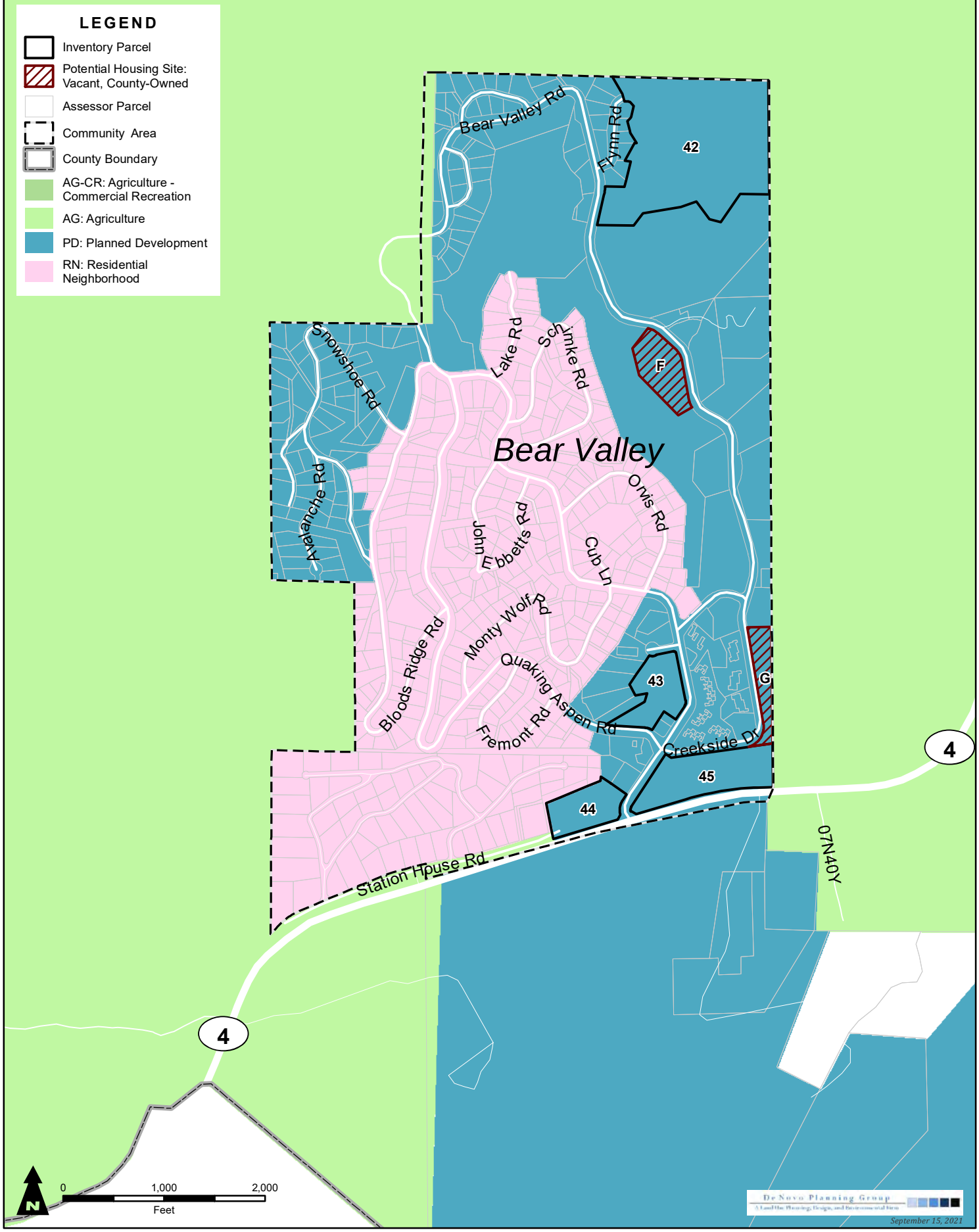
ALPINE COUNTY VACANT LANDS INVENTORY - BEAR VALLEY



Bear Valley Potential Housing Sites

Site Label	Zoning	General Plan	Bear Valley Master Plan	Maximum Density (units per acre)	Realistic Capacity (dwelling units)	Capacity Notes	APN	Ownership	Water Provider	Current Use	Existing Units	Acres	County Comments Regarding Site
42	Planned Development	PD - Planned Development	MF: MF-12, 113 units	7.4	49	MF-12 was applied to larger area; approx. 15 SF units/lots have been created; remaining capacity for 98 units. Not likely to develop at this intensity due to site constraints. Assume 50% capacity.	005-470-062-000	BEAR PAW RIDGE, LLC	LAWC/ BVWD	none	-	26.6	Bear Paw ridge - proposed subdivision. Had tentative maps in the 80s and 90s; expired. Most recent is withdrawn 2005 tentative map for duplex and SFD sites for approx 80 units. Diffiult site with one way dead end road plus granite slopes for road building etc
43	Planned Development	PD - Planned Development	P: P-3, Parking	20.0	44	Site is an existing parking lot. This scenario considers adding housing to the lot (e.g., housing plus parking structure, housing above parking, etc.). To calculate this, density provided is 50% of 20 units per acre.	005-480-008-000	ALPINE COUNTY	LAWC/ BVWD	none	-	4.4	Bear Valley Parking lots B and C. Originally to be developed per the Bear Valley Village Project, since removed from the project description.
44	Planned Development	PD - Planned Development	N/A - NOT IN BVMP	0.0	0	Assumes no growth, as site is currently open space and not owned by the County	005-470-053-000	BEAR VALLEY DEVELOPMENT CO	LAWC/ BVWD	none	-	4.0	Open Space "I"
45	Planned Development	PD - Planned Development	P: P-2, Parking	20.0	76	Site is an existing parking lot. This scenario considers adding housing to the lot (e.g., housing plus parking structure, housing above parking, etc.). To calculate this, density provided is 50% of 20 units per acre.	005-470-052-000	COUNTY OF ALPINE	LAWC/ BVWD	none	-	7.7	South parking lot. Also disc golf site location
F	Planned Development	PD - Planned Development	MF: MF-10, 45 units	11.8	45	Realistic capacity 45 units (previous approval)	005-470-044-000	Private	LAWC/ BVWD	none	-	3.9	Former Black forest condo site. Approved for 45 condos in 2008. Tentative map has expired. has old fountain from 1980s approval which was partial and expired
G	Planned Development	PD - Planned Development	CS-1 (0.3 acres); part of VC-2	32.9	66	Subtract 0.3 acres for CS-1; remainder based on average density allowed for VC-2	005-470-051-000	COUNTY OF ALPINE	LAWC/ BVWD	none	-	2.5	County: Bear Valley Parking Lot A

Jeff Gouveia

From: Judi Silber
Sent: Tuesday, September 28, 2021 10:25 AM
To: Jeff Gouveia
Cc: Judi Silber
Subject: FW: Election Packets For Bissell, Boyle, & Lundquist

Judi Silber judi.silber@bvwd.ca.gov
| Bear Valley Water District | PO Box 5027, Bear Valley, CA 95223 |
Office: 209.753.2112 | Cell : 209.206.3598 | Fax: 209.753.6267

bear valley WATER DISTRICT

From: Teola Tremayne <ttremayne@alpinecountyca.gov>
Sent: Tuesday, August 3, 2021 1:49 PM
To: Judi Silber <Judi.Silber@bvwd.ca.gov>
Subject: RE: Election Packets For Bissell, Boyle, & Lundquist

Looks great Judi!! You did a great job. Thank you for scanning to me. Hopefully, the Board can appoint in September or October.

Be well and stay safe,
Teola

ALPINE COUNTY, CALIFORNIA
Teola L. Tremayne | County Clerk
Ex Officio Clerk of the Board of Supervisors
Ex Officio Clerk of the Board of Equalization
Ex Officio Registrar of Voters
Parking Agent
LAFCo Executive Officer
P.O. Box 158 | Markleeville, CA 96120
☎ Cell (530) 721-5197
✉ ttremayne@alpinecountyca.gov

From: Judi Silber [mailto:Judi.Silber@bvwd.ca.gov]
Sent: Tuesday, August 3, 2021 1:33 PM
To: Teola Tremayne <ttremayne@alpinecountyca.gov>
Cc: Judi Silber <Judi.Silber@bvwd.ca.gov>
Subject: Election Packets For Bissell, Boyle, & Lundquist

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi, Teola

Please find attached the election packets for James Bissell, John Boyle, and Diane Lundquist, all incumbents.

No other individual as of today have requested an election packet. Since this is not a contested election, they will be appointed by the Alpine County Board of Supervisors. As of today, there will be no election. I will be mailing the wet copies today, certified, return receipt today.
If I get any more candidates, I will let you know as soon as possible.

Thank you and take care. Hope all is well with you and your family. So glad that the Tamarak Fire is almost contained.

Please confirm that you received this email. Thank you.

Kindly,

Judi Silber
Office Manager
Bear Valley Water District
441 Creekside Drive
Bear Valley, CA 95223
209-753-2112

Jeff Gouveia

From: Schroeder, Dan <dschroeder@neumiller.com>
Sent: Monday, September 20, 2021 2:54 PM
To: Jeff Gouveia
Subject: AB 361 - Teleconference Meetings During a pandemic
Attachments: 58335407_1 - E-Alert re AB 361 (Teleconferencing of Public Agency Meetings During State Emergency_Pandemic)(1557650.1).docx

Good afternoon,

As you are aware, in March of 2020, the Governor issued an Executive Order N-29-20 ("Order") suspending portions of the Brown Act and allowing public meetings to occur virtually. That included restricting the public to attend the meetings virtually without a physical location. The Governor's Order expires on September 30, 2021.

Late last week the Governor signed AB 361 that amends the Brown Act teleconferencing requirements to allow a public agency, during a declared emergency (such as the current pandemic), the option of holding meetings remotely without following the current teleconferencing requirements in the Brown Act and restricting the public's access to telephone or video conference. However, it establishes procedural hurdles that must be followed and maintained during the election to meet remotely. Attached for your convenience is a well written summary prepared by the law firm of Nossaman LLP we received explaining those changes. As you can see from the summary, a meeting must be held at least every 30 days to approve the continued use of virtual meetings allowed under the bill.

Feel free to contact me if you have any questions.

Dan

Neumiller & Beardslee
ATTORNEYS AND COUNSELORS | EST. 1915

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Everything Local Public Agencies Need to Know about California's New Rules on Virtual Meetings During the Pandemic

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On September 16, 2021, Governor Newsom signed Assembly Bill 361 (2021-2022) ("AB 361"), which incorporated into California state law some aspects of the teleconferencing rules that have applied by Executive Order to local public agencies during the COVID-19 pandemic. Notably, because AB 361 included an urgency measure, the law was immediately effective as of the date of the Governor's signature. AB 361 provides that it sunsets on January 1, 2024.

Benefits of operating under AB 361 during the COVID-19 pandemic, as opposed to under the normal open meeting laws, include the following:

- Agendas need not be posted at all teleconference locations;
- Each teleconference location need not be identified in the notice and agenda of the meeting;
- Each teleconference location need not be accessible to the public; and
- A quorum of the members of the legislative body do not need to participate in the meeting from locations within the boundaries of the territory over which the public agency exercises jurisdiction.

Following are requirements for invoking AB 361 the <u>first</u> time that a public agency does so:

1. There must be a "proclaimed state of emergency," *as there is currently, in that the Governor's State of Emergency Declaration, issued on March 4, 2020, has not been lifted*, <u>and</u>
2. One of the following three circumstances must exist:
    a. State or local officials have imposed or recommended measures to promote social distancing, *which also currently exist in California in light of the COVID-19 pandemic*;
    b. The meeting is held to determine, by majority vote, whether as a result of the emergency, meeting in person would present imminent risks to health or safety of attendees; or
    c. The majority of the legislative body has voted that, as a result of the emergency, meeting in person would present imminent risk to the health or safety of attendees.

If a public agency wishes to consider invoking AB 361 for <u>subsequent</u> meetings, the following is required for those subsequent meetings:

1. The proclaimed state of emergency must remain active; <u>or</u>
2. State or local officials have imposed or recommended measures to promote social distancing; <u>and</u>

3. Not later than 30 days after teleconferencing for the first time under the AB 361 rules, and every 30 days thereafter, the Legislative body shall make the following findings by majority vote:
    - The legislative body has reconsidered the circumstances of emergency, and at least one of the following circumstances exist:
        a. The state of emergency continues to directly impact the ability of the members to meet safely in person; or
        b. State or local officials continue to impose or recommend measures to promote social distancing.

If a public agency were to invoke AB 361, following are notice and participation requirements:

Notice Requirements

- Each notice of the meeting and agenda must identify the means by which members of the public may access the meeting and offer public comment by a call-in option or an internet-based service option (does not need to be both)

Participation Requirements

- Cannot require public comments to be submitted in advance of the meeting (although the agency may provide this as an option along with the call-in or internet-based service option)
- Public must be able to attend via call-in option or internet-based service option (does not need to be both)
- Public must be able to address the legislative body "directly" via call-in option or internet-based service option
- The public agency must provide an opportunity for the public to address the Legislative body and "offer comment in real time"
- If there is a disruption that prevents the public agency from broadcasting the meeting using the call-in option or internet-based service option, or if there is a disruption within the public agency's control that prevents members of the public from offering public comments using the call-in option or internet-based service option, the body "shall take no further action on items appearing on the agenda until public access to the meeting via the call-in option or internet-based service option is restore"
- Timing of Public Comment Period
    - If a legislative body does not provide a timed public comment period, but takes public comment separately on each agenda item, it shall allow a "reasonable amount of time per agenda item to allow public members the opportunity to provide public comment," including time for members of the public to register to provide comment or otherwise be recognized for the purpose of providing public comment
    - If a legislative body provides a timed general public comment period that does not correspond to a specific agenda item, it shall not close the public comment period or the opportunity to register until the timed general public comment period has elapsed

- If a legislative body provides a timed public comment period for each agenda time, it shall not close the public comment period or the opportunity to register until the timed public comment has elapsed

A Final Note

The current teleconferencing Executive Orders described in our prior e-alert (here) will remain in effect, if not rescinded, until September 30, 2021. Therefore, public agencies should have a couple of weeks to assess how to conduct their meetings in light of AB 361.

And, if legislative bodies will not be meeting until October 2021, AB 361 provides that its provisions may be invoked once under the conditions described, without having the legislative body make, by majority vote, the legislative findings noted above.

However, legislative findings will be required at least every 30 days thereafter, for as long as the legislative body continues to invoke AB 361 for purposes of conducting its meetings under those new rules.

	Prior Year July 1 - Aug 31	FY 20-21 Budget	FY 20-21 Budget	Current Year July 1 - Aug 31	FY 21-22 Budget	FY 21-22 Budget	Variance Explanation
REVENUES							
Residential	156,087	625,000	25%	155,677	630,000	25%	
Commercial	49,935	150,000	33%	32,695	120,000	27%	
Subtotal Operating Revenue	**206,022**	**775,000**	**27%**	**188,372**	**750,000**	**25%**	Revenue Target 25 %
EXPENSES							
Salaries & Benefits	86,825	374,414	23%	76,710	395,022	19%	
Director Expenses	400	2,000	20%	1000	2,000	50%	
Operator Training & Certs	0	1,500	0%	0	1,000	0%	
Gas, Diesel, Oil & Filters	0	3,000	0%	0	3,000	0%	
Insurance	3,261	16,000	20%	3,500	18,000	19%	
Memberships & Conferences	2,589	4,600	56%	2,250	5,500	41%	
Office Expenses & Supplies	2,074	10,000	21%	1,897	7,500	25%	
Field Expenses & Supplies	1,212	25,000	5%	2,951	20,000	15%	
Grooming, Snow Removal & Vehicle Storage	0	3,500	0%	0	3,500	0%	
Engineering & Consulting	0	5,000	0%	5819	5,000	116%	Design Standards
Legal & Accounting	0	10,000	0%	-672	10,000	-7%	Refund - Overpayment
Equipment Rental	268	800	34%	134	800	17%	
Repairs & Maintenance	8,762	60,000	15%	8,802	60,000	15%	
Laboratory Fees	2,434	15,000	16%	2,460	12,000	21%	
Regulatory Reporting & Comp. Projects	0	7,000	0%	0	6,500	0%	
Taxes, Fees, Licenses & Assessments	820	45,000	2%	11,462	45,000	25%	
Utilities	15,045	60,000	25%	28,770	55,000	52%	$9100 Late PGE Billing
Subtotal Operating Expenses	123,691	642,814	19%	145,083	649,822	22%	Expense Target - 20 %
Net Operational Income	**82,330**	**132,186**	**62%**	**43,289**	**100,178**	**43%**	
OTHER REVENUE							
Interest Income - LAIF	7	6,000	0%	13	1,500	1%	
Late Fee, Penalties and Interest	405	2,000	20%	110	2,500	4%	
Expense Reimbursements - USFS Campground	6,153	3,538	174%	4,805	4,805	100%	
Expense Reimbursements - Concessessaire	2,869	5,887	49%	3,830	3,830	100%	
Misc Other Income	86	0	UBD	0	5200	UBD	
				0			
Subtotal Other Revenue	9,519	23,425	41%	8,758	17,835	49%	
OTHER EXPENSES							
Loan Interest	2,455	12,318	20%	2,154	12,318	17%	
Depreciation	19,533	106,825	18%	18,423	100,596	18%	
Mics Expense	30	0	UBD	0	0	UBD	
Subtotal Other Expenses	22,019	119,143	18%	20,577	112,914	18%	
Net Other Income	(12,499)	(95,718)	13%	(11,818)	(95,079)	12%	
NET INCOME	**69,831**	**36,468**	**191%**	**31,471**	**5,099**	**617%**	
NON CASH EXPENDITURES (included in net income)							
Depreciation	19,533	114,223	17%	18,423	100,596	18%	
Subtotal Non-Cash Expenses	19,533	114,223	17%	18,423	100,596	18%	
CASH EXPENDITURES (Not Included in net income)							
Capital Improvements / Replacements	(11,463)	(189,053)	6%	(13,141)	(57,000)	23%	Rev Est $134,743
Loan Payments - Principal	(6,934)	(40,657)	17%	(7,236)	(44,019)	16%	
Subtotal Addl Cash Expenses	(18,397)	(229,710)	8%	(20,377)	(101,019)	20%	
NET CASH FLOW	**70,967**	**-79,019**	**-90%**	**29,517**	**4,676**	**631%**	

BVWD
Balance Sheet Prev Year Comparison
As of August 31, 2021

	Aug 31, 21	Aug 31, 20	$ Change	% Change
ASSETS				
Current Assets				
Checking/Savings				
11015 · F&M Bank	781,349.43	413,904.56	367,444.87	88.78%
11018 · LAIF	319,641.98	317,854.08	1,787.90	0.56%
11020 · Petty Cash	50.00	50.00		
11025 · Capital Facilities Fund	29,026.00	21,656.00	7,370.00	34.03%
Total Checking/Savings	1,130,067.41	753,464.64	376,602.77	49.98%
Accounts Receivable				
11050 · Accounts Receivable	-16,069.11	-15,621.42	-447.69	-2.87%
Total Accounts Receivable	-16,069.11	-15,621.42	-447.69	-2.87%
Other Current Assets				
11055 · Accounts Receivable-Tax Roll	10,165.46	11,806.20	-1,640.74	-13.9%
11140 · Prepaid Insurance	7,337.32	6,756.68	580.64	8.59%
Total Other Current Assets	17,502.78	18,562.88	-1,060.10	-5.71%
Total Current Assets	1,131,501.08	756,406.10	375,094.98	49.59%
Fixed Assets				
12010 · Land	25,805.16	25,805.16		
12020 · SbSrfLine	1,196,893.29	1,196,893.29		
12040 · Col Facilities	497,047.95	485,584.50	11,463.45	2.36%
12041 · LA Facilities	166,428.79	166,428.79		
12050 · TRT Facilities	1,358,836.36	1,352,893.09	5,943.27	0.44%
12060 · DSP Facilities	1,264,402.01	1,264,402.01		
12080 · P & A (Plant & Admin)Facilities	482,118.91	482,118.91		
12100 · Accumulated Depreciation	-2,923,723.00	-2,811,055.34	-112,667.66	-4.01%
14030 · Work in Progress				
14030.0 · W.I.P. - GIS Consulting Support	3,222.05	4,722.05	-1,500.00	-31.77%
16025 · Verisight Pro Plus 100M System	11,851.13		11,851.13	100.0%
16530 · Hydro Jetter		11,463.45	-11,463.45	-100.0%
16545 · Transfer Flow Meter		5,943.27	-5,943.27	-100.0%
16565 · FY20/21 - NPDES PERMIT (5 YR.)	27,280.00	23,104.00	4,176.00	18.08%
16580 · Solar Backup Battery Cover	10,104.16		10,104.16	100.0%
16600 · SGIP-Tesla Solar Backup Battery	15,700.00		15,700.00	100.0%
Total 14030 · Work in Progress	68,157.34	45,232.77	22,924.57	50.68%
Total Fixed Assets	2,135,966.81	2,208,303.18	-72,336.37	-3.28%
TOTAL ASSETS	**3,267,467.89**	**2,964,709.28**	**302,758.61**	**10.21%**
LIABILITIES & EQUITY				
Liabilities				
Current Liabilities				
Accounts Payable				
21021 · Accounts Payable	13,876.45	8,062.58	5,813.87	72.11%
Total Accounts Payable	13,876.45	8,062.58	5,813.87	72.11%
Other Current Liabilities				
21040 · Prepaid Revenue	232.97	232.97		

BVWD
Balance Sheet Prev Year Comparison
As of August 31, 2021

	Aug 31, 21	Aug 31, 20	$ Change	% Change
21090 · Payroll Liabilities	20,105.33	35,016.47	-14,911.14	-42.58%
2110 · Direct Deposit Liabilities	-8.18	-8.18		
22015 · Cal OES Unearned Income	300,000.00		300,000.00	100.0%
22021 · Accrued Vacation	18,322.58	17,710.53	612.05	3.46%
Total Other Current Liabilities	338,652.70	52,951.79	285,700.91	539.55%
Total Current Liabilities	352,529.15	61,014.37	291,514.78	477.78%
Long Term Liabilities				
26025 · F&M Bank Loan	326,213.20	368,846.28	-42,633.08	-11.56%
Total Long Term Liabilities	326,213.20	368,846.28	-42,633.08	-11.56%
Total Liabilities	678,742.35	429,860.65	248,881.70	57.9%
Equity				
29000 · Retained Earnings	1,953,664.32	1,868,361.83	85,302.49	4.57%
29100 · O & M Emergency Reserve Fund	150,000.00	150,000.00		
29200 · CIP Reserve Fund	425,000.00	425,000.00		
29300 · Capacity Fee Reserve Fund	29,026.00	21,656.00	7,370.00	34.03%
Net Income	31,035.22	69,830.80	-38,795.58	-55.56%
Total Equity	2,588,725.54	2,534,848.63	53,876.91	2.13%
TOTAL LIABILITIES & EQUITY	**3,267,467.89**	**2,964,709.28**	**302,758.61**	**10.21%**

BVWD
A/P Aging Summary
As of July 31, 2021

Prepaids July 2021	Current	1 - 30	31 - 60	61 - 90	> 90	TOTAL	Description
A.T.& T.	58.85					58.85	U-Verse for Main Office
A.T.& T.	225.30					225.30	Telephone for Main Office
E.D.D.	172.02					172.02	State Payroll Taxes
E.D.D.	508.87					508.87	State Payroll Taxes
E.D.D.	171.60					171.60	State Payroll Taxes
E.D.D.	491.49					491.49	State Payroll Taxes
Farmers & Merchant Bank	4,694.80					4,694.80	Principal & Interest on Loan
I.R.S.	3,530.70					3,530.70	Federal Payroll Taxes
I.R.S.	3,530.30					3,530.30	Federal Payroll Taxes
Lake Alpine Water Company	169.10					169.10	Water for Main Office
P.G.&E.	581.64					581.64	Electricity for May/June
P.G.&E.	1,359.02					1,359.02	Electricity for June/July
SDRMA	2,053.82					2,053.82	Health Benefits for Employees
SDRMA	650.05					650.05	Dental, Life, Disability, Vision
Vantagepoint Transfer	357.88					357.88	401K for Employees
Vantagepoint Transfer	1,196.19					1,196.19	457K for Employees
Vantagepoint Transfer	363.10					363.10	401K for Employees
Vantagepoint Transfer	1,258.24					1,258.24	457K for Employees
The Zenith	348.00					348.00	Annual Payroll Adjustment
The Zenith	833.00					833.00	Monthly Workers Compensation Ins.
TOTAL	**22,553.97**					**22,553.97**	

Accounts Payable July 2021	Current	1 - 30	31 - 60	61 - 90	> 90	TOTAL	Description
Al Cal Glass		52.43				52.43	Supplies
Alpha Analytical Laboratories Inc.		640.00				640.00	Lab Analysis
Arnold Auto Supply Inc.		64.22				64.22	Auto Supplies
AT&T Business Service 2				-12.72		-12.72	Credit on Account
Card Services		1,745.80	314.59			2,060.39	Office, Field, Telephone, Cyber Security
Columbia Communications Inc.		39.00				39.00	Pagers for Field Staff
El Dorado Septic Service, Inc.		134.06				134.06	Porta Potty Rental

BVWD
A/P Aging Summary
As of July 31, 2021

Accounts Payable July 2021	Current	1 - 30	31 - 60	61 - 90	> 90	TOTAL	Description
Hach		1,495.40				1,495.40	Lab Supplies
ICMA Retirement Corporation		203.47				203.47	Qtrly. Administration Fees
Neumiller and Beardslee		225.00				225.00	Legal Fees
Nexgen Utility Management		3,500.00				3,500.00	Annual Fees
P.G.&E.		-1,359.02				-1,359.02	Credit on Account
Stantec Consulting Services Inc.		85.00				85.00	Fees for NPDES Permit
U-Rock Utility Equipment		11,851.13				11,851.13	Pathogen Equipment for Hydro Meter
U.S.A. Under Ground Alert		150.00				150.00	Annual Fees for Dig Markings
Weber Ghio and Associates, Inc		1,185.00				1,185.00	
TOTAL		**20,011.49**	**314.59**	**-12.72**		**20,313.36**	

BVWD
A/P Aging Summary
As of August 31, 2021

Prepaids for August 2021	Current	1 - 30	31 - 60	61 - 90	> 90	TOTAL	Description
A.T.&T.	58.85					58.85	U-Verse for Main Office
A.T.&T.	224.73					224.73	Telephone for Main Office
Brim & Flores	289.05					289.05	ACH Refund
Card Services	1,778.97					1,778.97	Office, Cyber Security, Field
Crawford Refund	289.05					289.05	Property Sold
Davis	289.05					289.05	Property Sold
E.D.D.	188.86					188.86	State Payroll Taxes
E.D.D.	479.87					479.87	State Payroll Taxes
E.D.D.	178.69					178.69	State Payroll Taxes
E.D.D.	443.58					443.58	State Payroll Taxes
F & M Bank	4,694.80					4,694.80	Principal & Interest on Loan
I.R.S.	3,795.12					3,795.12	Federal Payroll Tax
I.R.S.	3,644.82					3,644.82	Federal Payroll Tax
Lake Alpine Water Company	166.68					166.68	Water For Main Office
Jim's Asphalt Paving	2,907.60					2,907.60	Paving of Admin Bldg. Parking
Mark Loisoto	257.43					257.43	Property Sold
P.G.&E.	17,183.11					17,183.11	Electricity
P.G.&E.	9,302.95					9,302.95	Electricity
SDRMA	2,053.82					2,053.82	Health Insurance
SDRMA	667.79					667.79	Dental, Vision, LTD, Life Ins.
Spaletta Refund	289.05					289.05	Property Sold
Vantagepoint Transfer	385.70					385.70	401K Retirement for Employee
Vantagepoint Transfer	1,305.78					1,305.78	457K Retirement for Employee
Vantagepoint Transfer	365.45					365.45	401K Retirement for Employee
Vantagepoint Transfer	1,278.89					1,278.89	457K Retirement for Employee
The Zenith	833.00					833.00	Workers Compensation Ins.
TOTAL	**53,352.69**					**53,352.69**	

August Payables 2021	Current	1 - 30	31 - 60	61 - 90	> 90	TOTAL	Description
Alpha Analytical Laboratories Inc.		1,820.00				1,820.00	Lab Analysis
Arnold Auto Supply Inc.		318.46				318.46	Auto Supplies

BVWD
A/P Aging Summary
As of August 31, 2021

August Payables 2021	Current	1 - 30	31 - 60	61 - 90	> 90	TOTAL	Description
AT&T Business Service 2					-12.72	-12.72	Credit on Account
California Public Employees' Retirement		250.00				250.00	Annual Social Security Fees
Columbia Communications Inc.		39.00				39.00	Pager for Field Staff
CVCWA		2,100.00				2,100.00	Membership
Diane Lundquist		200.00				200.00	Directors Fees Regular Meet
Ebbetts Pass Lumber Co. Inc.		145.44				145.44	Field Supplies
El Dorado Septic Service, Inc.		134.06				134.06	Porta Potty Rental
Gunnar Thordarson		200.00				200.00	Directors Fees Regular Meet
Jim Bissell		200.00				200.00	Directors Fees Regular Meet
John Boyle		200.00				200.00	Directors Fees Regular Meet
Ken Brown		200.00				200.00	Directors Fees Regular Meet
Lou's Gloves, Inc.		378.00				378.00	Field Supplies
Mike Smith Engineering, Inc.		1,155.00				1,155.00	Battery Cover Engineering
Neumiller and Beardslee		227.77				227.77	Legal
Rain For Rent		981.64				981.64	Field Supplies
U.S. P .S.	705.80					705.80	Postage for October Invoices
Weber Ghio and Associates, Inc		4,634.00				4,634.00	Engineering
TOTAL	**705.80**	**13,183.37**			**-12.72**	**13,876.45**	

BVWD
A/R Aging Summary
As of October 15, 2021

	Current	1 - 30	31 - 60	61 - 90	> 90	TOTAL
CS043		289.05			247.12	536.17
CM160		289.05		257.43		546.48
BV179		289.05			278.10	567.15
BV125		289.05			289.05	578.10
OS210		289.05			289.05	578.10
CS016		289.05			289.05	578.10
BV208		289.05			289.05	578.10
BV137		289.05			289.05	578.10
BV047		289.05			316.99	606.04
CS116		289.05			317.96	607.01
BV083		289.05			556.20	845.25
BV082		289.05			578.10	867.15
CM190					2,420.10	2,420.10
TOTAL	**0**	**153,711.30**	**-262.81**	**-3,563.22**	**-32,996.88**	**116,888.39**
TOTAL CREDITS	0.00	0.00	-1,129.96	-4,535.25	-40,689.85	-46355.06
TOTAL DEBITS	0.00	153,711.30	867.15	972.03	7692.97	163243.45
TOTAL	**0.00**	**153,711.30**	**-262.81**	**-3,563.22**	**-32,996.88**	**116,888.39**

BVWD
A/R Aging Summary
as of October 15, 2020

TOTAL	**0.00**	**151,508.99**	**745.30**	**-$2,136.82**	**-$39,991.12**	**110,126.35**
TOTAL CREDITS	0.00	0.00	(1,645.32)	(2,394.25)	(44,571.56)	(48,611.13)
TOTAL DEBITS	0.00	(151,508.99)	2,390.62	257.43	4,580.44	158,737.48
TOTAL	**0.00**	**(151,508.99)**	**745.30**	**(2,136.82)**	**(39,991.12)**	**110,126.35**

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Final Details for Order #113-5861576-0166620

Print this page for your records.

Order Placed: July 15, 2021
Amazon.com order number: 113-5861576-0166620
Order Total: $288.17

Shipped on July 18, 2021

Items Ordered	Price
1 of: *Amazon Basics College Ruled Composition Notebook, 100 Sheet, Marble Black, 4-Pack* Sold by: Amazon.com Services LLC Condition: New	$9.87
3 of: *Snake Bite Kit, Bee Sting Kit, Emergency First Aid Supplies, Venom Extractor Suction Pump, Bite and Sting First Aid for Hiking, Backpacking and Camping. Includes Bonus CPR face Shield (Blue)* Sold by: Sitengle (seller profile) | Product question? Ask Seller Condition: New	$19.99
1 of: *TOPS The Legal Pad Writing Pads, 8-1/2 x 11-3/4, Legal Rule, 50 Sheets, 12 Pack (7533)* Sold by: Amazon.com Services LLC Condition: New	$10.74
1 of: *TOPS The Legal Pad Writing Pads, 8-1/2" x 11-3/4", Canary Paper, Legal Rule, 50 Sheets, 12 Pack (7532)* Sold by: Amazon.com Services LLC Condition: New	$9.99
1 of: *The File King 1/3-Cut Top Tab Manila File Folder | Letter Size | Box of 100 | Made in The USA | Assorted Tab Positions | 11-Point Fiber Construction | Organize Home or Office* Sold by: The File King (seller profile) Condition: New	$16.79

Shipping Address:
Bear Valley Water District
441 Creekside Drive
Bear Valley, CA 95223
United States

Shipping Speed:
FREE Prime Delivery

Shipped on July 17, 2021

Items Ordered	Price
2 of: *LEVOIT Air Purifier for Home, H13 True HEPA Filter for Smokers, Smoke, Dust, Mold, and Pollen in Bedroom, Filtration System Odor Eliminators for Office with Optional Night Light, 1 pack, White* Sold by: Amazon.com Services LLC Condition: New	$89.99

Shipping Address:
Bear Valley Water District
441 Creekside Drive
Bear Valley, CA 95223
United States

Shipping Speed:
FREE Prime Delivery

Payment information

Payment Method:
Visa | Last digits: 3311

Billing address
Bear Valley Water District
441 Creekside Drive
Bear Valley, CA 95223
United States

Item(s) Subtotal:	$287.34
Shipping & Handling:	$0.00
Your Coupon Savings:	-$20.00
Total before tax:	$267.34
Estimated tax to be collected:	$20.83
Grand Total:	**$288.17**

Credit Card transactions

Visa ending in 3311: July 18, 2021: $288.17

To view the status of your order, return to Order Summary.

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Final Details for Order #111-1790606-8013840

Order Placed: July 4, 2021
PO number : GUY
Amazon.com order number: 111-1790606-8013840
Order Total: $117.92

Shipped on July 6, 2021

Items Ordered — **Price**

1 of: *Replacement Oxygen Sensor for BW Tech Gas Alert Micro 5* — $109.95
Sold by: Ideal Calibrations (seller profile)
Business Price
Condition: New New with current or -1 month date code maximum from pur chase date. Last 3 digits of SN are the date code: MMY format. Ask the seller what the date code is BEFORE pur chasing, don't risk getting old sensors!

8/16/21

Shipping Address:
Bear Valley Water District - Guy West
441 CREEKSIDE DRIVE
BEAR VALLEY, CA 95223-5027
United States

Shipping Speed:
Standard Shipping

Item(s) Subtotal:	$109.95
Shipping & Handling:	$0.00
Total before tax:	$109.95
Sales Tax:	$7.97
Total for This Shipment:	**$117.92**

Payment information

Payment Method:
Visa | Last digits: 3268

Billing address
Bear Valley Water District
PO Box 5027
Bear Valley, CA 95223
United States

Item(s) Subtotal:	$109.95
Shipping & Handling:	$0.00
Total before tax:	$109.95
Estimated Tax:	$7.97
Grand Total:	**$117.92**

Credit Card transactions
Visa ending in 3268: July 6, 2021: $117.92

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