Big Basin Water Company

Governance Options Analysis

Local Agency Formation Commission of Santa Cruz County

LAFCO

Final Version – March 6, 2024

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EXECUTIVE SUMMARY

Introduction

The Local Agency Formation Commission of Santa Cruz County ("LAFCO") has developed this report to provide information about the current state of affairs and considerations for potential future governance structure for the Big Basin Water Company ("BBWC"). Pursuant to Government Code Section 56375(r), following the enactment of Assembly Bill 54 in 2011, LAFCOs can approve or deny the annexation of territory served by a mutual water company into the jurisdiction of a city, a public utility, or a special district. Additionally, AB 54 granted LAFCOs the authority to evaluate mutual water companies and privately-owned water systems when conducting a service review.

Countywide Water Report

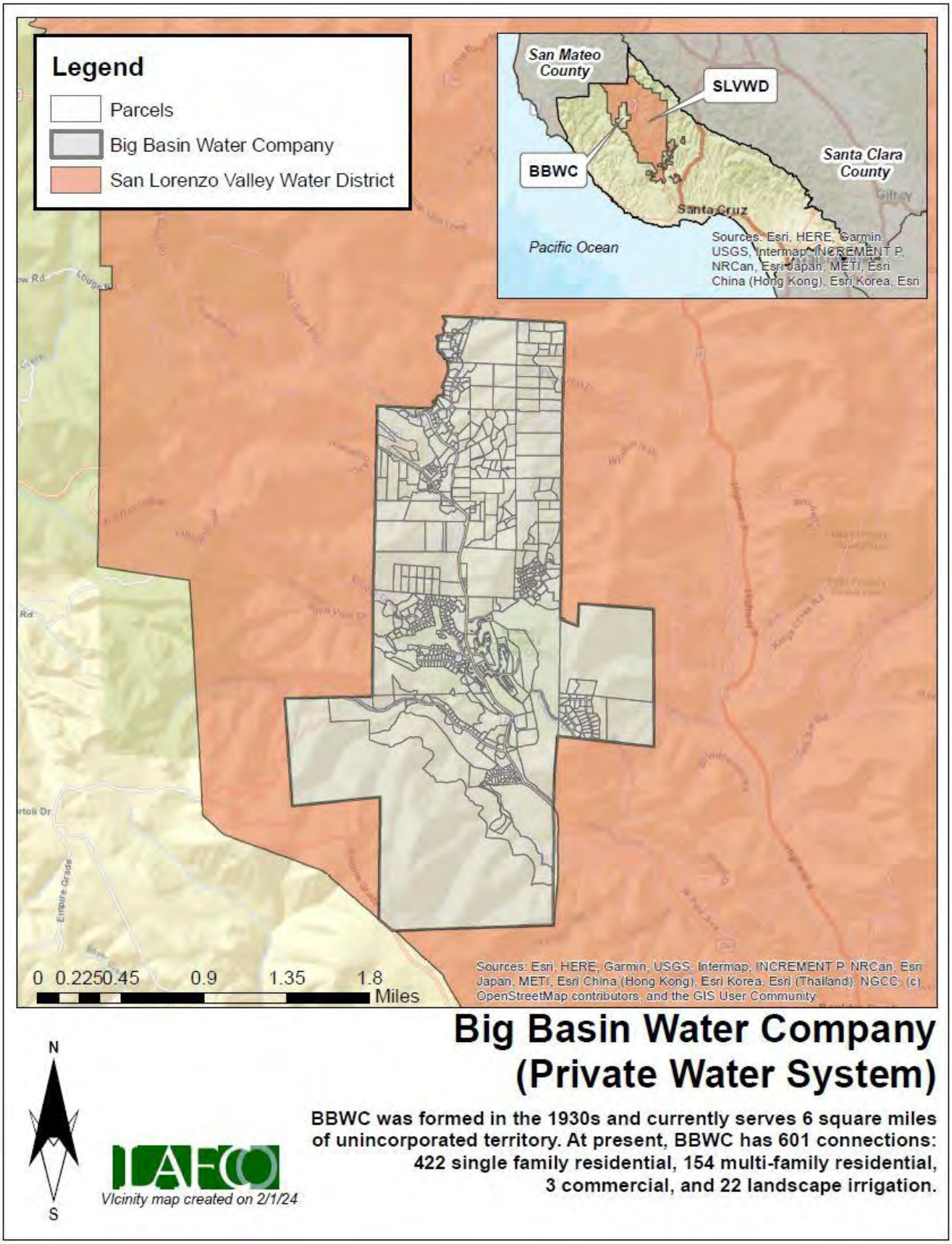
In 2022, LAFCO conducted a countywide water service and sphere review which analyzed the 13 public water agencies in Santa Cruz County, one of them being the San Lorenzo Valley Water District ("SLVWD")[1]. One of LAFCO's recommendations from the report was for SLVWD to coordinate with LAFCO to analyze possible annexations and/or sphere amendments to include any mutual water companies or other nearby small water systems (ex. Big Basin Water Company) that were affected by the recent wildfires or for other various reasons not able to provide adequate levels of service. Since the 2022 water report, there have been significant developments involving BBWC – including the establishment of a court receivership to manage the company's water and wastewater operations. This report provides a summary overview of the current state of affairs and presents possible governance options for BBWC and its constituents to consider. The primary goal is to identify a solution that will provide the Big Basin community with a stable water purveyor adept to provide proper level of management, representation, and transparency. It is important to note that this report does not require LAFCO, the County, BBWC, or any other party to initiate a change of organization based on the report's conclusions or findings. However, LAFCO, local agencies, and the public may subsequently use the determinations and related analysis to consider whether to pursue changes in service delivery, government structure, or other relevant actions.

Summary Overview of Big Basin Water Company

The Big Basin Water Company was formed in the 1930s. Based on available records, most of the infrastructure is now over 40 years old. At present, BBWC provides water and sewer services to approximately 1,680 constituents. BBWC's water source consists of one active vertical well, one horizontal well, and three surface water diversions: (1) Jamison Springs North, (2) Jamison Springs South, and (3) Corvin Creek. A water diversion is a mechanism that diverts (or redirects) water by using instream barriers such as dams, weirs, culverts, canals, and pipes. In this case, BBWC uses dams to divert water for usage. In addition to water, BBWC provides sewer service to a small number of homes (29 connections) though two wastewater discharge leach fields. A vicinity map, on page 3, shows the location of the private water system. A detailed overview of BBWC is discussed on page 5.

[1] 2022 LAFCO Water Report: https://santacruzlafco.org/wp-content/uploads/2022/09/Countywide-Water-MSR-Adopted-Version.pdf

Vicinity Map – Big Basin Water Company



Big Basin Water Company (Private Water System)

BBWC was formed in the 1930s and currently serves 6 square miles of unincorporated territory. At present, BBWC has 601 connections: 422 single family residential, 154 multi-family residential, 3 commercial, and 22 landscape irrigation.

Potential Governance Options

Water service has been provided to the Big Basin community by a privately-owned water company for almost 100 years. In the past two decades, several significant failures and violations made by BBWC have been discovered and recorded (these issues are discussed on page 6). This led to an unprecedented action by the courts to establish a receivership in order to provide better oversight to the company. The receivership was awarded to Serviam by Wright LLP (formerly known as Silver & Wright LLP) and is meant to be a temporary solution to the long-standing issue of proper governance and reliable water supply. That is why LAFCO has identified seven potential governance options that the affected agencies, court-appointed receiver, and the Big Basin residents should consider. It is important to note that other options may be possible, but these are the ones LAFCO has determined could be feasible at the current time. That being said, further analysis would be needed to determine whether any of the options could come to fruition.

Table A provides a list of the options identified by LAFCO (in no particular order). All options may require involvement of the various regulatory and governmental bodies, including but not limited to LAFCO. **Table A** also illustrates which affected agency may need to review and/or take action in order for an option to be carried out.

Table A: Governance Options Summary

Governance Options	Action Required?						
	SWRCB	PUC	County	SLVWD	BBWC	Big Basin Residents	LAFCO
Option #1 Annexation	-	X	X	X	X	X	X
Option #2 CSA Formation	-	X	X	-	X	X	X
Option #3 District Formation	-	X	X	-	X	X	X
Option #4 ESA	-	-	-	-	X	-	X
Option #5 Reorganization	-	X	X	X	X	X	X
Option #6 New MWC	X	X	-	-	X	X	-
Option #7 New Private Company	X	X	-	-	X	X	-

Acronyms used in the table above:
SWRCB: State Water Resources Control Board; PUC: California Public Utilities Commission; SLVWD: San Lorenzo Valley Water District; and BBWC: Big Basin Water Company

COMPANY OVERVIEW

Background

The Big Basin Water Company ("BBWC") was formed in the 1930s. Based on court records, most of the infrastructure is now over 40 years old. At present, BBWC provides water service to 601 connections and sewer service through 29 connections. There is a population of approximately 1,700 residents living within the Big Basin area. Based on LAFCO's analysis, BBWC has a total of 787 parcels totaling approximately 4,000 acres. BBWC's water source consists of one active vertical well, one horizontal well, and three surface water diversions: (1) Jamison Springs North, (2) Jamison Springs South, and (3) Corvin Creek. These three water diversions collect water from three of the five perennial streams located within BBWC's property. County records indicated that the three surface water diversions are at approximately 1,200 feet in elevation.

Service Provisions

Prior to the 2020 CZU wildfire, each water diversion consisted of a small concrete dam with a four-inch steel pipe passing through it. The four-inch steel pipes have screening to prevent debris. Jamison Reservoir 1 & 2 and Corvin Springs were emptied into a distribution tank with overflow into the Jamison Reservoir. The water from the distribution tank was pumped to the Jamison Filter plant, constructed in 1992. From the filter plant, the water was stored in a 210,000-gallon finished water tank. Water flowed from this tank by gravity into the main pressure zone. Four pump stations lifted the water into additional storage tanks where BBWC has two vertical wells. Well No. 2 is inactive and well No. 4 only supplies water during the summer months. Well No. 4 can produce up to 450 gallons per minute and meets State standards without any treatment. This information was extracted from the court documents filed against the Big Basin Water Company by the California State Water Resources Control Board (Division of Drinking Water). Appendix A provides a copy of the court document.

Jamison Springs Intakes

The diversions on Jamison Springs North and South have been repaired following the CZU fire. The diversion consists of a small concrete dam with a four-inch steel pipe passing through it. The diversions provide some reduction of large debris and suspended solids from entering the raw water intake pipes. Each pipe has a manually cleaned screen that captures any large solids.

Corvin Creek Intake

The Corvin Creek intake was completely destroyed by the CZU fire. BBWC plans to rebuild and use the Corvin Creek intake in the future.

Jamison Springs Surface Water Treatment Plant

The Jamison Springs Surface Water Treatment Plant ("SWTP") historically received water from Jamison Springs North and South and Corvin Creek. Raw water intakes captured water from both Jamison Springs North and South and conveyed it to a preliminary sedimentation tank. After sedimentation, the water was filtered, and chlorinated prior to storage in the 210,000-gallon storage tank. In 2020, the Jamison Springs SWTP was completely destroyed by the CZU wildfire.

Treated Water Storage

Treated finished water from the SWTP is stored in a 210,000-gallon tank and delivered to the distribution system.

Treated Water Distribution System

Prior to the 2020 CZU wildfire, BBWC provided water to approximately 580 service connections. The distribution system consisted of almost 20 miles of water main ranging in size from 2 inches to 12 inches, with about 750,000 gallons of water storage in multiple tanks. Since the CZU wildfire, BBWC provides water to 400 customers.

Population and Growth

Based on staff's estimation, the population of BBWC in 2020 was approximately 1,700. The Association of Bay Area Governments (ABAG)[2] and the Association of Monterey Bay Area Governments (AMBAG)[3] prepare population projections for cities and counties in the Coastal Region. Official growth projections are not available for special districts. In general, the Coastal Region is anticipated to experience slow growth over the next twenty years. Based on this slow growth trend, the population for unincorporated areas is expected to increase by 0.86%. **Table B** shows the anticipated population of the area currently served by BBWD over the next twenty years. Based on the projections for Santa Cruz County, LAFCO was able to develop a population forecast for BBWC. Our projections indicate that the entire population of BBWC will grow to over 1,700 by 2040.

Table B: Projected Population

	2020	2025	2030	2035	2040
Santa Cruz County (Unincorporated Area)	136,891	137,896	139,105	140,356	141,645
Big Basin Water Company	**1,680**	**1,694**	**1,709**	**1,724**	**1,738**

Current / Ongoing Issues

The Big Basin Water Company has been in the news for the last few years due to the repeated failures of the system and violations. Court records show that the California State Water Resources Control Board ("SWRCB") stated several findings and identified subsequent actions that needed to be implemented by BBWC. Unfortunately, none of those actions were completed and BBWC continues to be out of compliance. **Table C** on page 7 outlines SWRCB's findings, directives, received responses, and recommended enforcement actions towards BBWC from 2018 to 2022.

[2] ABAG Website: https://abag.ca.gov/

[3] AMBAG Website: https://www.ambag.org/

Table C: California State Water Resources Control Board Action Summary

Date	Findings	Directives	Response	Enforcement	Status
9/12/2018 10/17/2018	2018 Sanitary Survey Report found that the deferred maintenance and aging infrastructure had met end of life usefulness and thus the System was not in compliance regarding max day demand with storage capacity.	To follow 12 specific directives to correct violations to backflow regulations.	Hired a contractor to begin work but abandoned in Summer 2020. Owners said it'd cost $2.8 million to address capacity deficiency.	Citation No.02_05_19C_012	To date, the System remains out of compliance.
10/28-10/29/2019	PG&E conducted public safety power shutoff due to fire danger and gave ample time to properly respond. This caused a water outage.	The System must ensure adequate power, including backup power. They needed to create an outage plan.	Failed to meet deadline for outage plan submission.	Compliance Order No.02_05_21R_001 Citation No.02_05_21C_030 Citation No.02_05_22C_060	To date, the System remains out of compliance.
4/9/2021	On-site inspection finds owners continue to fail in taking steps to correct capacity deficiency.	To comply with directives regarding source capacity and getting a second well due to CZU fire.	Owners said they'd install a surface water treatment plant onsite, asked for extension to comply with CO 02_05_21R_001, and applied for state grant to drill a new well. Division then provided significant help on the technical plan for treatment plant	Compliance Order 02_05_21R_001	To date, the System remains out of compliance. In early 2022, owner informed Division that project was no longer active.
6/27/2021 8/19/2021	Water outages reported by System's customers caused by faulty 100-amp breaker that shut down Galleon Heights booster station.	Submit a plan to replace and appurtenances at Galleon Heights booster station and backup power capabilities.		Citation No.02_05_21C_021	To date, the System remains out of compliance.
10/28/2021	Citation issued due to continued failure to comply with regulatory obligations.	Division explained that seeking the appointment of a receiver was an enforcement option.		Citation No.02_05_21C_030 $21,000 fine	To date, the System remains out of compliance.
2/2022 July-Sept 2022	Feb 2022 Sanitary Survey Report echoes 2018 report. A significant deficiency in the Oberst Finished Water Storage tank was also identified. From July to Sept, water outages are reported by customers caused by power failure at Well 4.	Install backup power at Well 4.	Waive new assessed fine to invest and address deficiencies.	Citation No.02_05_22C_060 $12,500 fine	SLVWD loaned generator to System. Fine was waived. Owners did not reinvest $12,500

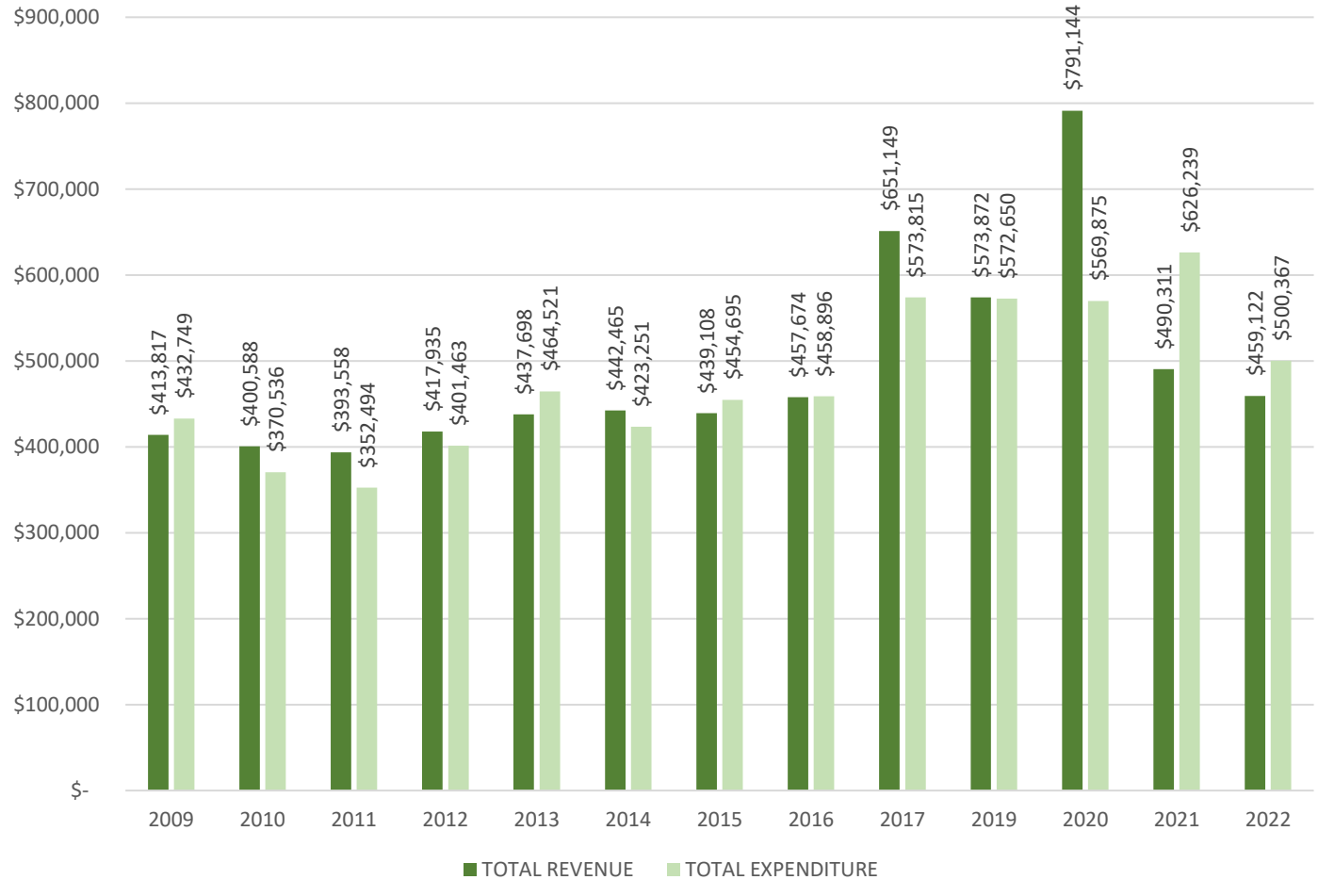
FINANCIAL OVERVIEW

This section describes BBWC's financial performance during the past decade. Fiscal year 2021-22 was the last time BBWC made financial information available. LAFCO evaluated BBWC's financial health from 2009 to 2022. A comprehensive analysis of BBWC's financial performance during the past 13 years is shown in **Tables F and G** on pages 11 and 12. It is important to note that audited financial statements were not publicly available, and therefore, LAFCO extracted the fiscal data from the annual reports submitted to the California Public Utilities Commission.

Revenues & Expenditures

At the end of the 2022 calendar year, total revenue collected by BBWC was approximately $460,000, representing a 6% decrease from the previous year ($490,000 in 2021). Total expenses for 2022 were approximately $500,000, which decreased from the previous year by approximately $126,000 or 20% percent ($626,000 in 2021). BBWC experienced an annual deficit in six of the last 13 calendar years, with consecutive deficits in 2021 and 2022, as shown in **Figure A**.

Figure A: BBWC Financial Performance (2009 to 2022)



Revenues

There were four revenue streams in 2022, as shown in the table below. Metered water revenue accounted for 91% of BBWC's entire revenue.

Table D: Total Revenue (2022 Calendar Year)

Revenue Stream	Total Amount ($)	Percentage (%)
Water Services Revenue		
Fire Protection & Hydrant	$401	0.09%
Metered Water	$419,667	91.41%
Other Water Revenue	$4,895	1.07%
Total Water Services Revenue	**$424,963**	**92.56%**
Other Revenue		
Non-Utility	$34,159	7.44%
Total Other Revenue	**$34,159**	**7.44%**
TOTAL REVENUE	**$459,122**	**100.00%**

Assets

BBWC's financial assets are comprised of current and non-current assets. Current assets include the following: cash on hand, special deposits, accounts receivable, materials and supplies, and investments. Non-current assets include the water treatment plant minus its associated depreciation. In 2022, BBWC's investments accounted for 71% of the company's total assets. Page 12 shows a detailed breakdown of total assets from 2009 to 2022.

Expenses

BBWC categorizes its expenses into five groups, as shown in **Table E** on page 10. Volume-related expenses include purchased water, power, and other volume-related expenses. Non volume related costs include: employee labor, materials, contract work, transportation, and other plant maintenance expenses. Administration and general expenses include: office salaries, management salaries, employee pension and benefits, uncollectible accounts, office services and rentals, office supplies, professional services, insurance, regulatory compliance, and general expenses. And finally, other expenses include: depreciation, loan amortization, property/sales taxes, state and federal corporate income taxes, non-utility costs, and interest expenses. In 2022, administration and general expenses accounted for almost half of BBWC's entire expenditure budget.

Table E: Total Expenditure (2022 Calendar Year)

Expenses	Total Amount ($)	Percentage (%)
Volume-Related Costs	$23,495	4.70%
Non-Volume-Related Costs	$110,439	22.07%
Admin & General Costs	$236,927	47.35%
Other Expenses	$129,506	25.88%
TOTAL EXPENDITURE	**$500,367**	**100.00%**

Liabilities

BBWC's financial liabilities are comprised of current liabilities, long-term liabilities, and corporate capital and retained earnings. Current liabilities include the following: accounts payable, accrued interest, and other current liabilities. Non-current liabilities include long-term debt. Corporate capital & retained earnings include the following: common stock and retained earnings. In 2022, BBWC's long-term debt accounted for approximately 60% of the company's total liabilities. Page 12 shows a detailed breakdown of total liabilities from 2009 to 2022.

Table F – Revenue & Expenditure Overview

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2019	2020	2021	2022
REVENUE													
Water Services Revenue													
Unmetered Water Revenue	$ 5,716	$ 5,716	$ 5,716	$ 5,716	$ 3,385	$ 3,807	$ 3,559	$ 4,197	$ 3,269	$ 1,633	$ -	$ 480	$ -
Fire Protection & Hydrant Revenue	$ 576	$ 576	$ 576	$ 576	$ 576	$ 707	$ 707	$ 707	$ 707	$ 707	$ -	$ -	$ 401
Metered Water Revenue	$ 393,448	$ 382,315	$ 376,866	$ 396,344	$ 425,449	$ 436,573	$ 432,480	$ 440,199	$ 467,911	$ 516,806	$ 420,422	$ 351,643	$ 419,667
Other Water Revenue	$ 14,077	$ 11,981	$ 10,400	$ 15,299	$ 8,288	$ 1,378	$ 2,362	$ 10,859	$ 6,748	$ -	$ -	$ -	$ 4,895
Total Water Services Revenue	**$ 413,817**	**$ 400,588**	**$ 393,558**	**$ 417,935**	**$ 437,698**	**$ 442,465**	**$ 439,108**	**$ 455,962**	**$ 478,635**	**$ 519,146**	**$ 420,422**	**$ 352,123**	**$ 424,963**
Other Revenue													
Non-Utility Income	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,712	$ 172,514	$ 54,726	$ 370,722	$ 138,188	$ 34,159
Total Other Revenue	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,712**	**$ 172,514**	**$ 54,726**	**$ 370,722**	**$ 138,188**	**$ 34,159**
TOTAL REVENUE	**$ 413,817**	**$ 400,588**	**$ 393,558**	**$ 417,935**	**$ 437,698**	**$ 442,465**	**$ 439,108**	**$ 457,674**	**$ 651,149**	**$ 573,872**	**$ 791,144**	**$ 490,311**	**$ 459,122**
EXPENDITURE													
Volume Related Expenses													
Purchased Water	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Power	$ 16,450	$ 16,049	$ 16,511	$ 17,172	$ 21,711	$ 25,299	$ 19,301	$ 13,125	$ 19,826	$ 28,226	$ 25,603	$ 48,510	$ 23,495
Other Volume Related Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Volume Related Expenses	**$ 16,450**	**$ 16,049**	**$ 16,511**	**$ 17,172**	**$ 21,711**	**$ 25,299**	**$ 19,301**	**$ 13,125**	**$ 19,826**	**$ 28,226**	**$ 25,603**	**$ 48,510**	**$ 23,495**
Non-Volume Related Expenses													
Employee Labor	$ 45,834	$ 46,323	$ 48,880	$ 48,880	$ 48,880	$ 48,880	$ 49,820	$ 62,207	$ 66,295	$ 61,100	$ 93,142	$ 88,622	$ 70,823
Materials	$ 4,440	$ 4,575	$ 4,884	$ 3,721	$ 3,548	$ 7,994	$ 10,154	$ 4,650	$ 4,327	$ 5,881	$ 27,040	$ 31,556	$ 32,804
Contract Work	$ -	$ -	$ -	$ -	$ 6,892	$ 6,829	$ 6,912	$ 9,840	$ 13,725	$ 6,730	$ 42,703	$ 13,216	$ 2,892
Transportation Expense	$ 13,732	$ 14,694	$ 14,049	$ 17,034	$ 17,100	$ 9,987	$ 10,145	$ 11,389	$ 11,342	$ 22,704	$ 9,406	$ 9,533	$ 3,920
Other Plant Maintenance Costs	$ 20,624	$ 25,483	$ 16,367	$ 17,421	$ 21,004	$ 14,033	$ 18,271	$ 16,110	$ 7,792	$ 27,075	$ -	$ 112,927	$ -
Total Non-Volume Related Expenses	**$ 84,630**	**$ 91,075**	**$ 84,180**	**$ 87,056**	**$ 97,424**	**$ 87,723**	**$ 95,302**	**$ 104,196**	**$ 103,481**	**$ 123,490**	**$ 172,291**	**$ 255,854**	**$ 110,439**
Administrative & General Expenses													
Office Salaries	$ 33,533	$ 32,900	$ 32,900	$ 32,900	$ 32,900	$ 32,900	$ 33,533	$ 32,900	$ 7,868	$ 22,100	$ -	$ -	$ 4,523
Management Salaries	$ 81,437	$ 79,900	$ 79,900	$ 79,900	$ 79,900	$ 79,900	$ 81,437	$ 83,244	$ 117,790	$ 125,020	$ 131,697	$ 134,662	$ 129,648
Employee Pensions & Benefits	$ 37,519	$ 38,671	$ 37,437	$ 45,048	$ 49,515	$ 49,006	$ 42,657	$ 1,698	$ 1,764	$ 8,549	$ 28,853	$ 45,982	$ 37,405
Uncollectible Accounts Expense	$ 8,819	$ 6,072	$ 4,207	$ 3,278	$ 3,157	$ 4,673	$ 2,635	$ -	$ 480	$ -	$ -	$ -	$ -
Office Services & Rentals	$ 3,174	$ 2,888	$ 336	$ 2,689	$ 4,105	$ 1,678	$ 3,711	$ 3,911	$ 2,956	$ 5,804	$ 6,360	$ 4,019	$ 8,127
Office Supplies & Expenses	$ 5,571	$ 5,744	$ 6,139	$ 5,826	$ 5,204	$ 5,497	$ 4,701	$ 13,311	$ 17,436	$ 14,519	$ 19,871	$ 11,330	$ 10,359
Professional Services	$ 1,034	$ 987	$ 1,128	$ 1,231	$ 1,258	$ 5,969	$ 13,451	$ 15,195	$ 19,234	$ 19,204	$ 19,681	$ 3,060	$ 15,739
Insurance	$ 11,558	$ 14,885	$ 15,768	$ 15,739	$ 15,700	$ 12,465	$ 11,932	$ 61,001	$ 69,181	$ 56,001	$ 11,547	$ 33	$ 1,504
Regulatory Compliance Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,519	$ 10,058	$ 8,119	$ 17,635	$ 27,989
General Expenses	$ 24,387	$ 31,233	$ 23,550	$ 28,846	$ 24,112	$ 20,968	$ 40,565	$ 2,167	$ 2,437	$ 2,437	$ 931	$ 1,094	$ 1,633
Total Admin & General Expenses	**$ 207,032**	**$ 213,280**	**$ 201,365**	**$ 215,457**	**$ 215,851**	**$ 213,056**	**$ 234,622**	**$ 213,427**	**$ 243,665**	**$ 263,692**	**$ 227,059**	**$ 217,815**	**$ 236,927**
Other Expenses													
Depreciation	$ 14,962	$ 14,926	$ 14,926	$ 14,962	$ 14,926	$ 14,926	$ 14,926	$ 14,926	$ 14,926	$ 14,926	$ 3,621	$ 11,305	$ 11,033
SDWBA Loan Amortization	$ 72,373	$ -	$ -	$ 24,929	$ 40,966	$ 40,966	$ 40,966	$ 40,966	$ 40,966	$ 39,382	$ 38,718	$ 34,499	$ 34,430
Property/Sales Taxes	$ 21,021	$ 19,794	$ 21,231	$ 27,653	$ 18,647	$ 18,852	$ 23,608	$ 21,260	$ 31,050	$ 22,811	$ 24,858	$ 33,530	$ 23,195
State Corporate Income Tax	$ 752	$ 752	$ 752	$ 752	$ 752	$ 752	$ 752	$ 2,168	$ 943	$ 2,790	$ -	$ 800	$ 1,800
Federal Corporate Income Tax	$ 547	$ -	$ -	$ -	$ 13,391	$ 13,536	$ 18,641	$ -	$ -	$ -	$ -	$ -	$ -
Misc Non-Utility Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,012	$ 84,917	$ 33,838	$ 51,775	$ 4,018	$ 26,308
Interest Expense (excluding SDWBA)	$ 14,982	$ 14,660	$ 13,529	$ 13,482	$ 40,853	$ 8,141	$ 6,577	$ 34,816	$ 7,021	$ 10,380	$ 8,256	$ 1,032	$ 14,213
Interest Expense (SDWBA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 27,020	$ 33,115	$ 17,694	$ 18,876	$ 18,527
Total Other Expenses	**$ 124,637**	**$ 50,132**	**$ 50,438**	**$ 81,778**	**$ 129,535**	**$ 97,173**	**$ 105,470**	**$ 128,148**	**$ 206,843**	**$ 157,242**	**$ 144,922**	**$ 104,060**	**$ 129,506**
TOTAL EXPENDITURE	**$ 432,749**	**$ 370,536**	**$ 352,494**	**$ 401,463**	**$ 464,521**	**$ 423,251**	**$ 454,695**	**$ 458,896**	**$ 573,815**	**$ 572,650**	**$ 569,875**	**$ 626,239**	**$ 500,367**
Surplus/(Deficit)	**$ (18,932)**	**$ 30,052**	**$ 41,064**	**$ 16,472**	**$ (26,823)**	**$ 19,214**	**$ (15,587)**	**$ (1,222)**	**$ 77,334**	**$ 1,222**	**$ 221,269**	**$ (135,928)**	**$ (41,245)**

Table G – Assets & Liabilities Overview

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2019	2020	2021	2022
ASSETS													
Current Assets													
Cash On Hand	$ 2,025	$ (332)	$ 183	$ (1,511)	$ 2,999	$ 932	$ 442	$ 4,943	$ 3,034	$ 6,320	$ 180,654	$ (1,965)	$ 1,131
Cash - Special Deposits	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 27,745	$ 56,675	$ 19,446	$ 4,918	$ 3,682	$ 4,004
Accounts Receivable - Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 480	$ -	$ 38,967	$ 32,242	$ 33,684	$ 44,058
Receivables from Affiliated Companies	$ -	$ -	$ -	$ -	$ 83,893	$ 83,893	$ 83,893	$ -	$ -	$ -	$ -	$ -	$ -
Materials and Supplies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,300	$ 31,577	$ 31,577	$ 31,577
Investments	$ -	$ 83,893	$ 83,893	$ 83,893	$ -	$ -	$ -	$ 315,220	$ 391,670	$ 526,241	$ 529,242	$ 529,242	$ 557,801
Total Current Assets	**$ 2,025**	**$ 83,561**	**$ 84,076**	**$ 82,382**	**$ 86,892**	**$ 84,825**	**$ 84,335**	**$ 348,388**	**$ 451,379**	**$ 611,274**	**$ 778,633**	**$ 596,220**	**$ 638,571**
Non-Current Assets													
Water Plant	$ 2,035,151	$ 2,035,181	$ 2,037,249	$ 2,037,249	$ 2,037,249	$ 2,037,249	$ 2,037,249	$ 2,037,249	$ 2,039,904	$ 1,943,372	$ 1,404,876	$ 1,407,165	$ 1,407,165
Minus Depreciation/ Amortization	$ (1,130,093)	$ (1,185,982)	$ (1,200,911)	$ (1,297,766)	$ (1,271,729)	$ (1,327,621)	$ (1,383,513)	$ (1,439,405)	$ (1,495,297)	$ (1,499,026)	$ (1,171,419)	$ (1,217,223)	$ (1,262,686)
Total Non-Current Assets	**$ 905,058**	**$ 849,199**	**$ 836,338**	**$ 739,483**	**$ 765,520**	**$ 709,628**	**$ 653,736**	**$ 597,844**	**$ 544,607**	**$ 444,346**	**$ 233,457**	**$ 189,942**	**$ 144,479**
TOTAL ASSETS	**$ 907,083**	**$ 932,760**	**$ 920,414**	**$ 821,865**	**$ 852,412**	**$ 794,453**	**$ 738,071**	**$ 946,232**	**$ 995,986**	**$ 1,055,620**	**$ 1,012,090**	**$ 786,162**	**$ 783,050**
LIABILITIES													
Current Liabilities													
Accounts Payable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23,054	$ 19,362	$ 18,166	$ 31,491
Accrued Interest	$ -	$ -	$ -	$ -	$ (40,853)	$ -	$ -	$ -	$ -	$ 5,401	$ 4,847	$ 4,697	$ 4,543
Other Current Liabilities	$ (75,637)	$ (59,509)	$ (69,197)	$ (80,579)	$ (62,823)	$ 62,823	$ 40,853	$ 81,225	$ 75,940	$ 35,892	$ 225	$ 35,376	$ 47,046
Current Liabilities	**$ (75,637)**	**$ (59,509)**	**$ (69,197)**	**$ (80,579)**	**$ (103,676)**	**$ 62,823**	**$ 40,853**	**$ 81,225**	**$ 75,940**	**$ 64,347**	**$ 24,434**	**$ 58,239**	**$ 83,080**
Non-Current Liability													
Long-Term Debt	$ (779,061)	$ (766,275)	$ (730,444)	$ (738,039)	$ (734,702)	$ 697,803	$ 677,819	$ 653,720	$ 632,738	$ 520,492	$ 520,264	$ 478,145	$ 465,334
Total Long-Term Debt	**$ (779,061)**	**$ (766,275)**	**$ (730,444)**	**$ (738,039)**	**$ (734,702)**	**$ 697,803**	**$ 677,819**	**$ 653,720**	**$ 632,738**	**$ 520,492**	**$ 520,264**	**$ 478,145**	**$ 465,334**
Corporate Capital & Retained Earnings													
Common Stock	$ 145,302	$ 145,302	$ 145,302	$ 145,302	$ 145,302	$ 145,302	$ 145,302	$ 145,302	$ 145,302	$ 81,302	$ 145,302	$ 145,302	$ 145,302
Other Paid-In Capital	$ 2,054,257	$ 2,054,339	$ 2,054,339	$ 1,923,332	$ 2,010,321	$ 1,855,396	$ 1,792,868	$ -	$ -	$ -	$ -	$ -	$ -
Retained Earnings	$ (439,855)	$ (425,792)	$ (384,728)	$ (428,151)	$ (464,833)	$ (445,619)	$ (461,132)	$ 65,985	$ 142,007	$ 389,479	$ 322,090	$ 104,477	$ 89,334
Total Corporate Capital & Retained Earnings	**$ 1,759,704**	**$ 1,773,849**	**$ 1,814,913**	**$ 1,640,483**	**$ 1,690,790**	**$ 1,555,079**	**$ 1,477,038**	**$ 211,287**	**$ 287,309**	**$ 470,781**	**$ 467,392**	**$ 249,779**	**$ 234,636**
TOTAL LIABILITIES	**$ 905,006**	**$ 948,065**	**$ 1,015,272**	**$ 821,865**	**$ 852,412**	**$ 2,315,705**	**$ 2,195,710**	**$ 946,232**	**$ 995,987**	**$ 1,055,620**	**$ 1,012,090**	**$ 786,163**	**$ 783,050**

Footnotes:

1) LAFCO discovered miscalculations and ommitted numbers in several financial statements which resulted in incorrect net values (total amounts)

2) The total liability amount in 2011, 2014, and 2015 do not match total assets.

GOVERNANCE OPTIONS

Option 1: Annexation into San Lorenzo Valley Water District

Under this option, the area within the Big Basin Water Company would be annexed, or in other words, added into the San Lorenzo Valley Water District ("SLVWD"). If approved, the BBWC would no longer be in existence. Water districts, like SLVWD, are typically governed by an elected five-member board of directors, financed by property taxes and/or rates and fees, and managed by professionals in their respective areas of expertise (operations, engineering, finance etc.). BBWC service area is entirely surrounded by the SLVWD and is also within SLVWD's sphere of influence boundary. A sphere of influence indicates an area where a public agency may provide services outside its own service area boundary. Annexation must be approved by LAFCO before SLVWD can provide services to the subject area. The following table highlights the potential benefits and constraints associated with this option.

Table H: Annexation Option (Pros & Cons)

Benefits (Pros)	Constraints (Cons)
* Established local not-for-profit water supplier: public water agency	* Lengthy process: typically takes 6-8 months to complete, may require more time due to the involvement of private and public parties
* Better representation: board of directors	* BBWC's infrastructure deficiencies must be addressed before annexation can be completed
* Enhanced service level: professional staff	* SLVWD party must be willing, interested and able to participate in the transaction
* Increased transparency: public records, outreach strategy, annual audits	*Constituents may be subject to higher rates
* Requires LAFCO involvement: detailed analysis before approval	
* Requires BBWC customer approval: involvement and understanding of the process	
* May qualify for local/state financial assistance	
* Supported by local, regional, and state agencies: SWRCB, County, and LAFCO	
*Supported by local, regional, and state agencies: SWRCB, County, and LAFCO	

Option 2: Annexation into another Local Agency

Under this option, the area within the Big Basin Water Company would be annexed to another local agency (specifically water agencies). There are a total of seven water agencies within Santa Cruz County: four water districts (Central, San Lorenzo Valley, Scotts Valley, and Soquel Creek Water Districts), two city water departments (Cities of Santa Cruz and Watsonville), and one water management agency (Pajaro Valley Water Management Agency). State law allows non-contiguous annexation when an interested water agency is not immediately adjacent to the annexation area. Government Code Section 55801 states that *"Territory within the same county but not contiguous with the district may be annexed to the district if the board determines that the district resulting from the annexation may be more efficiently and economically operated than if a separate district were formed."* Annexation must be approved by LAFCO before any local agency can provide services to the subject area. The following table highlights the potential benefits and constraints associated with this option.

Table I: Annexation Option (Pros & Cons)

Benefits (Pros)	Constraints (Cons)
* Established local not-for-profit water supplier: public water agency	* Lengthy process: typically takes 6-8 months to complete, may require more time due to the involvement of private and public parties
* Better representation: board of directors	* BBWC's infrastructure deficiencies must be addressed before annexation can be completed
* Enhanced service level: professional staff	* Affected agency must be willing, interested and able to participate in the transaction
* Increased transparency: public records, outreach strategy, annual audits	*Representation may be difficult to determine due to non-contiguous constituents
* Requires LAFCO involvement: detailed analysis before approval	
* Requires BBWC customer approval: involvement and understanding of the process	
* May qualify for local/state financial assistance	

Option 3: Formation of a County Service Area – Dependent Special District

Under this option, a dependent special district known as a County Service Area (CSA) would be created to assume water service responsibilities. If approved, the BBWC would no longer be in existence. Unlike the independent special districts, a CSA is managed by the County. CSAs are governed by the County Board of Supervisors, financed through adopted benefit assessment and/or special taxes, and administered by County staff. Additionally, some CSAs may have a resident-based advisory board for additional oversight. The following table highlights the potential benefits and constraints associated with this option.

Table J: CSA Formation Option (Pros & Cons)

Benefits (Pros)	Constraints (Cons)
* Creation of a new not-for-profit public agency: dependent special district	* Lengthy process: typically takes 6-8 months to complete, may require more time due to the involvement of private and public parties
* Moderate representation: County board of supervisors	* BBWC's infrastructure deficiencies must be addressed before annexation can be completed
* Increased organizational capacity: County staff	* County must be willing and able to provide the services
* Better transparency: public records, annual audits	
* Requires LAFCO involvement: detailed analysis before approval	
* Requires BBWC customer approval: involvement and understanding of the process	
* May qualify for local/state financial assistance	

Option 4: Formation of an Independent Special District

Under this option, an independent special district, similar to SLVWD, would be created to assume water service responsibilities. If approved, the BBWC would no longer be in existence. The new water district would be governed by an elected board of directors comprised of its service area residents, financed through its own fees and charges, and administered/operated by its own employees. The following table highlights the potential benefits and constraints associated with this option.

Table K: District Formation Option (Pros & Cons)

Benefits (Pros)	Constraints (Cons)
* Creation of a new not-for-profit public agency: independent special district	* Lengthy process: typically takes 12 months or more to complete the formation of a new public agency with its own funding source and service provisions
* Enhanced and direct representation: own board of directors	* Formation of a new board of directors may require additional analysis to determine the election process
* Specialized staff	* New district must address all current BBWD infrastructure deficiencies
* Better transparency: public records, annual audits	* Managing and operating a small independent special district does not have any economies of scale: expensive value proposal
* Requires LAFCO involvement: detailed analysis before approval	* Hiring and retaining qualified staff is challenging
* Requires BBWC customer approval: involvement and understanding of the process	
* May qualify for local/state financial assistance	

Option 5: Establishment of an Extraterritorial Service Agreement

Under this option, a contract, known as an extraterritorial service agreement (ESA) is established allowing a public agency (ex. SLVWD) to provide water services to the BBWC area. Pursuant to Government Code Section 56133, LAFCO can approve an ESA if there is an immediate health and safety issue and/or annexation will occur in the near future. In other words, an ESA is a temporary solution and a precursor to annexation. An ESA does not require BBWC to be in existence for approval. However, it is important to note that an ESA does not make any short- or long-term governance or operational changes – it is a tool that could provide a more reliable source of water to the BBWC customers from a nearby public agency. The following table highlights the potential benefits and constraints associated with this option.

Table L: ESA Option (Pros & Cons)

Benefits (Pros)	Constraints (Cons)
* Can be completed quickly: 1-2 months	* Temporary solution
* Addresses the immediate need for a reliable supply source	* Does not resolve the ongoing infrastructure, governance or operational deficiencies and violations
* Requires LAFCO involvement: confirming it meets GCS 56133 criteria	* Contributing party (ex. SLVWD) must be willing and able to participate in the transaction

Existing Emergency Intertie

It is LAFCO's understanding that the SLVWD and BBWC (under the court-appointed receiver's direction), have entered into an agreement allowing BBWC to receive water from SLVWD in case of an emergency. In accordance with state law, a public agency must receive LAFCO approval before providing water services to an area outside its jurisdictional boundary. Therefore, LAFCO requests that the court-appointed receiver and/or SLVWD submit an ESA application in the near future to reflect the current agreement in place. The ESA request would be a standalone application or part of a reorganization effort, as discussed in Option 6 on page 18.

Option 6: Reorganization (Multi-Step Process)

Under this option, multiple organizational and structural changes are completed. For example, an ESA (discussed in more detail on page 17) could be approved with the condition that annexation (discussed in more detail on pages 13-14) were to occur on a pre-determined date in the future. This approach would allow the community to receive immediate services from a nearby public agency without waiting for the formal annexation process to be completed. Pursuant with Government Code Section 56650, a reorganization may be initiated by petition from affected residents or by resolution from the affected agency (or agencies). The following table highlights the potential benefits and constraints associated with this option.

Table M: Reorganization Option (Pros & Cons)

Benefits (Pros)	Constraints (Cons)
* Temporary solution can be completed quickly, followed by a long-term solution	* Lengthy process: dependencies between the chosen steps must be pre-determined and commitments obtained.
Depending on the different governance options that may be part of a reorganization effort, including an ESA and subsequent annexation attempt, please refer to the tables under Options 1-5	

Option 7: Formation of a New Mutual Water Company

Under this option, a new mutual water company (MWC) that assumes the water service responsibility would be established. If a new company is formed, the BBWC would no longer be in existence. MWCs are organized under California Corporations Code 14300, regulated under the US EPA Safe Drinking Water Act, and operate under a myriad of local/statewide/federal rules and regulations. MWCs are regulated by California's Water Code, Health and Safety Code and must abide by open meeting and public records disclosure laws similar to many public water utilities. In operating a public water system, MWCs are also subject to regulation by the California Department of Public Health and must comply with requirements imposed by the State Water Resources Control Board and our local Regional Water Quality Control Board. It is important to note that LAFCO does not have purview over MWCs and the creation of a new MWC does not require LAFCO approval. With that being said, MWCs are required to hold annual shareholders' meetings and, in general, to distribute copies of financial statements to shareholders every year. The Corporations Code also provides guidance for the inspection of accounting books and records by shareholders. The following table highlights the potential benefits and constraints associated with this option.

Table N: Mutual Water Company Option (Pros & Cons)

Benefits (Pros)	Constraints (Cons)
* Known structure (privately owned local company)	* New company inherits the ongoing infrastructure, and operational deficiencies
*Action does not require LAFCO approval	* Lack of economies of scale continues to be a major challenge for running an efficient system

Option 8: Acquisition by a Private Company

Under this option, another private (water/utility) company would purchase BBWC's assets and assume the water service responsibility. If purchased, the BBWC would no longer be in existence. Similar to MWCs, privately-owned water systems are organized under California Corporations Code 14300, regulated under the US EPA Safe Drinking Water Act, and operate under a myriad of local/statewide/federal rules and regulations (see page 19). The purchase and sale of BBWC does not require LAFCO action. The following table highlights the potential benefits and constraints associated with this option.

Table O: Private Company Option (Pros & Cons)

Benefits (Pros)	Constraints (Cons)
* May result in increased efficiencies and economies of scale if acquired by a larger entity	* Loss of local control
* Potential funding from a private source to correct the existing deficiencies	* Lack of transparency: privately-owned company
*Action does not require LAFCO approval	

CONCLUSION

The identified options have not been considered with the level of detail necessary to determine their feasibility or appropriateness given the circumstances, nor are they meant to represent the only options available. The intent is to highlight possible solutions, outline their respective benefits and constraints, and collectively choose a path forward. If the affected parties determine that one or more options should be analyzed in more detail, LAFCO is committed to continuing with further evaluation under a joint effort. In the interim, this report is meant to be a resource and foundation for finding a solution.

APPENDICES

Appendix A: Court File - California State Water Resources Control Board, Division of Drinking Water (Petitioner) v. Big Basin Water Company, Inc., Thomas James Moore, and Shirley Moore (Respondents).

APPENDIX A

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Exempt from Filing Fees -Gov't Code § 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SANTA CRUZ

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, DIVISION OF DRINKING WATER,

Petitioner,

v.

BIG BASIN WATER COMPANY, INC., THOMAS JAMES MOORE, AND SHIRLEY MOORE,

Respondents

Case No. 23CV01615

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Ex. V	Purchase and Sale Agreement Between System and Central States Water Resources, Inc.	3/9/2023	0435-0457
Ex. W	Division's Email Exchange with Enrique Chavez, Jr. (CSWR)	4/21/2023- 4/28/2023	0459-0493
Ex. X	Cleanup and Abatement Order No. R3-2022-0077 issued by Central Coast Regional Board	11/21 2022 1/19/2023	0495-0509
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Ex. AA	Notice of Violation for Not Reducing Wastewater Levels in WWTP Basins and Missing Weekly Reports, CAO No. R3-2022-0077 Issued by Central Coast Regional Board	1/19/2023	0548-0552
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Ex. D	Written Comments Received by CPUC Water Division	4/2023	0727-0772
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Ex. A	Email Complaints from J. Arrasjid	3/2023	0929-0930

Dated: July 7, 2023

Respectfully submitted,

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SUPERIOR COURT OF THE STATE OF CALIFORNIA

SANTA CRUZ COUNTY

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, DIVISION OF DRINKING WATER,

Petitioner,

v.

BIG BASIN WATER COMPANY, INC., THOMAS JAMES MOORE, and **SHIRLEY MOORE,**

Respondents

Case No. _____

DECLARATION OF JONATHAN WEININGER IN SUPPORT OF APPLICATION FOR APPOINTMENT OF RECEIVER UNDER HEALTH AND SAFETY CODE SECTION 116665

I, Jonathan Weininger, declare:

1. I am a registered professional civil engineer (License No. 84754) and am employed with the California State Water Resources Control Board, Division of Drinking Water (Division) as the District Engineer for the Monterey District. I submit this declaration in support of the

Division's petition seeking appointment of a receiver over the public drinking water system known as Big Basin Water Company System (the System), located in the Division's Monterey District. The facts set forth below are based on my personal knowledge and a diligent review of the Division's file materials for the System, which are retained in the ordinary course of business.

2. The Division seeks appointment of a receiver based on its determination that the owners of the System—Big Basin Water Company, Inc. and its controlling shareholders, directors and managers James ("Jim") Moore and Shirley (aka "Teri") Moore (collectively, the Owners)—are unable and unwilling to adequately serve the System's customers and have been unresponsive to the Division's directives, compliance orders and citations, as described below and shown by the evidence submitted with this petition. As a result of their actions and inactions, the System currently is incapable of delivering an adequate supply of healthful water to its customers and much of its infrastructure is well past the end of its useful life. Over the past four years, the Division has issued a series of citations and a compliance order to the System and has repeatedly attempted to work with the Owners to get them to take the steps necessary to fix the system's problems, without any success. Instead, the system has continued to deteriorate, and the failure to make necessary repairs has now put the customers' water supply, and as a result their health, at significant risk. A receivership is necessary to promptly take steps to minimize this risk and to bring the System into compliance with the requirements of the California Safe Drinking Water Act and its implementing regulations.

3. I have worked for the state drinking water program for thirteen years and have held my current position as District Engineer since November, 2020. As District Engineer, I am familiar with all public water systems in the Monterey District, including the System. I am responsible for enforcing the provisions of the Safe Drinking Water Act and regulations applicable to public water systems in the District. My specific duties include supervising the inspection and evaluation of water systems, overseeing the preparation of domestic water supply permits, preparing compliance orders and citations, and directing the evaluation of water quality data and facilities pertaining to production, treatment, storage, and distribution of potable water. I

am also the custodian of the Division's records related to public water systems in the Monterey District.

4. I currently work under the supervision of Stefan Cajina, Chief of the State Water Board's North Coastal Section. As District Engineer, I supervise support staff and six field staff, among them Shaminder Kler, a registered Professional Civil Engineer who is employed as an Associate Sanitary Engineer, and Kyle Graff, a registered Professional Civil Engineer who is employed as a Water Resource Control Engineer. Mr. Kler and Mr. Graff are also charged with regulatory oversight of the System and ensuring the System complies with the Safe Drinking Water Act and all applicable regulations adopted thereunder. To this end, Mr. Kler, Mr. Graff, and I have worked directly with the Owners and the various people they have sporadically engaged in connection with the System's operations. As the supervisor to Messrs. Kler and Graff, I direct their work activities as they relate to the System and have worked with them on the many issues that have arisen concerning the System. Prior to my role as District Engineer, I held the position of Sanitary Engineer under the supervision of Jan Sweigert, P.E., District Engineer for the Monterey District. Beginning in 2017, my job responsibilities as Sanitary Engineer included regulatory oversight of the System and ensuring it complied with the Safe Drinking Water Act and all applicable regulations adopted thereunder.

5. There have been organizational changes in the State's drinking water program since I joined the Division in 2010. The drinking water program was once part of the California Department of Health Services, later reorganized as the California Department of Public Health. As of July 2014, the program was moved to the California State Water Resources Control Board and became the Division of Drinking Water (the "Division"). The Division regulates "public water systems" such as the System. A public water system is a system that provides water for human consumption. Corporations owned by private individuals can and do own public water systems, and the System is one such example. Although the State's drinking water program's name and parent agency have changed over the years, the program's mission has always remained the same: to ensure that public water systems provide an adequate supply of healthful drinking water to their customers.

6. The System is owned and operated by, and in the possession of, Jim and Shirley Moore and their corporate entity Big Basin Water Company, Inc., P.O. Box 197, Boulder Creek, California. As self-reported in their 2022 electronic report to the Division, the System currently provides drinking water to approximately 1,120 Californians through 540 service connections, comprised of 365 single family residential, 152 multi-family residential, 3 commercial and 20 landscape irrigation connections. The System's service area is a portion of the Boulder Creek community of the Santa Cruz mountains.

7. To assist in understanding the technical problems with the System, I provide this basic description of the design of a water system. Water is taken from streams, creeks, and springs (surface water) and/or wells (groundwater) to feed the system using miles of pipes of differing sizes, including a water main (mainline) and service lines that supply water to customers. Pumps and booster stations add energy into the system, keeping the water flowing through the system and are necessary to maintain water pressure. Storage tanks store the water for use by water customers and they also function to maintain pressure in the system. Maintaining proper pressure is essential to the operation of a functional public water system, as is: (1) a stable water source along with sufficient capacity to feed the system; (2) power to supply the system and ensure proper pressure is maintained at all times, including at the water source and at each booster station; and (3) functioning mainline, service lines, booster stations, storage tanks and related infrastructure free of major leaks, corrosion and damage.

8. The System currently uses one active groundwater source known as Well 4 and has six inactive water sources comprised of both groundwater and surface water sources, which are discussed further in paragraphs 10 and 21, below. The System's distribution system consists of five pressure zones and approximately twenty miles of distribution mainline ranging in size from 2" to 12" inch diameter. As of the 2022 sanitary survey, the System self-reported that it has six booster stations and eight storage tanks. The System does not maintain permanent backup power at Well 4 or at any of its booster stations except one. I have recently been informed by the neighboring water system, San Lorenzo Valley Water District (SLVWD), that they are close to completing an emergency intertie between SLVWD and the System, which could provide a

limited backup water source in the event of an emergency. However, once an emergency intertie is online, it will not be sized to completely restore water in the event of an emergency. To date, the System has not provided me information on the status of this emergency interconnection.

9. Based on my personal knowledge in directly participating in and directing the regulatory oversight of the System, as well as a review of records maintained by the Division regarding the System's historical operations, there have been many instances of deferred maintenance with the System, and the System has not complied with the Division's recommended actions and directives regarding maintenance and improvements needed in the system. For purposes of this declaration, I set forth the Division's main actions, findings, directives, and enforcement actions beginning in the Fall of 2018. Since 2019, the Division has issued ten formal administrative enforcement actions to the System and engaged in innumerable discussions with Jim and Shirley Moore as well as other stakeholders seeking to bring the System back into compliance with its statutory and regulatory obligations, with no success. A timeline setting forth the actions described in this Declaration is attached to this Declaration as **Exhibit A**.

The 2018 Sanitary Survey, Cross-Connection Control Violations and the Attempted Sale of the System to San Jose Water Company

10. On September 12 and October 17, 2018, I conducted an on-site inspection of the System's facilities. A true and correct copy of the inspection report that I prepared following this inspection entitled 2018 Sanitary Survey Report is attached to this declaration as **Exhibit B**.

11. During my inspection, I observed that the System showed significant deferred maintenance and infrastructure that had reached the end of its useful life. I also observed that the System's source capacity was inadequate to meet its maximum day demand. Pursuant to California Code of Regulations (CCR), Title 22, Section 64554(a), the System is required to have sufficient source capacity to meet the System's 10-year maximum day demand. In addition, the System is required to meet its 10-year maximum day demand with storage capacity, unless it can demonstrate that it has additional source capacity or an intertie (an interconnection permitting water delivery) with a nearby system. At the time of my inspection in the Fall of 2018, the System's primary water source was surface water drawn from Corvin Creek and Jamison Springs

as well as a horizontal well supplied by surface water. This surface water was treated at the System's surface water treatment plant (SWTP). The System also accessed groundwater from Well 4, but that supply is limited and was used only as a backup source. The System did not have an intertie to receive water from a nearby system. The System sold water to two neighboring public water systems, Forest Springs Improvement and Maintenance Association and Bracken Brae Country Club. Thus, even when the System was accessing and using multiple water sources in 2018, it still did not comply with source capacity regulations. In addition, many deficiencies at the SWTP that had been identified in previous inspection reports by the Division remained uncorrected, and the System conceded it was not adequately staffed. The Division's findings and recommended corrective actions are set forth in detail in the 2018 Sanitary Survey Report attached to this declaration as **Exhibit B**.

12. Following issuance of the 2018 Sanitary Survey Report, the Division issued Citation No. 02_05_19C_012 to the System on February 22, 2019, due to the System's violations of regulations designed to prevent backflow (California Health and Safety Code, Section 116555(a)(2), CCR, Title 17, Sections 7584, 7585 and 7605). Backflow refers to the undesirable reversal of water flow in the system and it is dangerous because it is a process by which contaminants such as chemicals, waste and stagnant, bacteria-ridden water can get into the clean water supply. A public water system must maintain and implement a cross-connection control program to prevent backflow and maintain records documenting the locations, tests, and repairs of required backflow prevention devices. Citation No. 02_05_19C_012 set forth twelve specific directives that the System is required to take to correct its violations of the backflow regulations. A true and correct copy of Citation No. 02_05_19C_012 is attached to this declaration as **Exhibit C.**

13. The System initially engaged a cross-connection control contractor, Ben Bennett, in 2019 but abandoned this effort in the Summer of 2020. I continued to attempt to obtain the System's compliance with the cross-connection and backflow regulations, without success. It was only on March 20, 2023, that the System copied me as a recipient on emails it began exchanging with Mr. Bennett to reengage on the cross-connection control problems with the System. To date,

the System has not resolved the deficiencies identified in Citation No. 02_05_19C_012 and it remains out of compliance with the regulations.

14. With respect to other deficiencies identified in the 2018 Sanitary Survey Report, the System submitted to the Division its written response to the 2018 Sanitary Survey Report by letter dated March 3, 2019. The System acknowledged each deficiency identified in the Report and set forth its intended corrective actions. The System estimated it would cost a total of $2,877,900.00 to complete all corrective measures. Included within that estimate were costs to address the System's source capacity deficiency. A true and correct copy of the System's written response to the 2018 Sanitary Survey Report received by the Division is attached to this declaration as **Exhibit D**.

15. The operational deficiencies at the System at the time of the 2018 Sanitary Survey Report were serious and required immediate attention. Jim Moore told me that the rates the System charged its customers did not generate sufficient revenue to perform the necessary repairs and improvements to the system, which representation is referenced in the 2018 Sanitary Survey Report along with the Division's response that that the System must provide a plan and complete all corrective actions identified in the Report regardless of the Owners' reported financial restrictions. (Exhibit B, p. 17 of 18 the Report.)

16. Also at the time of the 2018 Sanitary Survey Report, I was aware that Jim Moore and San Jose Water Company (SJWC) were in talks regarding the potential sale of the System to SJWC. In 2019 and into 2020, representatives of SJWC were actively involved in discussions with me, my supervisor at the time Jan Sweigert, and Jim Moore regarding the challenges facing the System and its compliance issues. For example, when the System experienced the water outage described in paragraph 17 below, I communicated with Jim Moore and with SJWC in seeking to ensure that the System obtained a generator to supply necessary backup power. As another example, representatives of SJWC along with Jim Moore attended my on-site inspection of the System's SWTP on January 17, 2020, discussed in paragraph 22 below. At the time of that inspection, both SJWC and Jim Moore told me that the sale of the System to SJWC was imminent, requiring only the signing of a final contract. Despite SJWC's active interest in taking

over the System with its significant deficiencies, the Owners were unable to close a deal to sell the System to SJWC, as described further in paragraph 23 below.

October 2019 Water Outage and the System's Failure to Ensure an Adequate Power Supply for the System

17. Despite the System's acknowledgement in March, 2019 of major deficiencies in its system that required corrective actions, no immediate corrective actions were taken. 2019 marked the start of a serious decline in the System's ability to reliably provide water to its customers on a regular basis. After I issued the 2018 Sanitary Survey Report in February 2019, the first major breakdown I know of that impacted customers' access to water occurred in October 2019, when Pacific Gas & Electric (PG&E) instituted a public safety power shutoff due to high fire danger. Despite the System having ample notice of the planned power outage, it failed to properly respond. PG&E's noticed power outage resulted in the System losing power needed to run its system. Because the System did not own or timely secure any backup power source, such as a generator, the System's customers suffered water outages on October 28 and 29, 2019.

18. As a result of the water outage, Jim Moore reported to me that the System posted a Boil Water Notice on its website and on the mobile device app known as Nextdoor on October 29, 2019. A Boil Water Notice is one of four unsafe water notifications that a public water system issues under circumstances identified by the Division. The other three types of notice are "Do Not Drink," "Do Not Use" and "Do Not Drink / Do Not Boil" and are considered "Tier 1" public notices under the California Safe Drinking Water Act Public Notification Rules. Under certain circumstances, a Tier 1 Boil Water Notice is issued following a loss in system pressure to less than 5 psi as a result of events such as a water treatment plant or pump station shut down due to power outage, equipment failure, main breaks, emptying of storage facilities, pressure fluctuations, and uncontrolled occurrences such as a dewatering of the system during major fire events and natural disasters. A Tier 1 Notice is issued by the public water system and should be done as soon as possible but within 24 hours, or after being notified by the Division that it has determined there is a potential for adverse effects on human health. The Division provides templates for public water systems to use in issuing Tier 1 Notices, and the public water system

coordinates with the Division's District office to receive approval that the Notice is complete and accurate before issuing it to impacted consumers. To ensure Tier 1 Notices are accurately and promptly issued, the District Engineer at each District office is available 24 hours a day, seven days a week, to coordinate with a public water system on issuance of a Tier 1 Notice. As a backup, the Division has a rotating duty officer on call at all times.

19. The District Engineer determines when the unsafe water notice can be lifted, which typically is after the public water system has corrected the deficiency and satisfactory water sampling results are received by the Division from a certified laboratory. In the instance of the Boil Water Notice issued by the System on October 29, 2019, Jan Sweigert, District Engineer at the time, approved lifting of Boil Water Notice after the System re-established service and submitted two rounds of approved water sampling.

20. Following the water outage on October 28 and 29, 2019, the Division repeatedly directed the System to ensure adequate power, including backup power, is supplied at all locations in the system and provide a power outage response plan to eliminate the recurrence of the problem. For example, on February 3, 2020, the Division sent a letter to the System directing submission of a power outage plan by no later than February 28, 2020. A true and correct copy of the Division's letter to the System is attached to this declaration as **Exhibit E**. After the System failed to comply with that deadline, the Division issued a compliance order and citations attempting to obtain the System's compliance, including Directive 4 in Compliance Order No. 02_05_21R_001 (**Exhibit G**, and discussed further in paragraphs 25-26, below), Directive 6.a. in Citation No. 02_05_21C_030 (**Exhibit M**, and discussed further in paragraph 36, below), and Directives 1 and 2.a in Citation 02_05_22C_060 (**Exhibit** R, and discussed further in paragraph 45, below). To date, the System has not provided the required plan or performed necessary corrective actions to ensure the system has adequate power supply.

21. As detailed further below, following its Boil Water Notice in October, 2019, system failures required the System to issue more and more Boil Water and other Tier 1 Notices, the frequency of which have now reached alarming levels.

The System's Critical Source Capacity Deficiency and Issuance of Compliance Order 02_05_21R_00

22. On January 17, 2020, I performed an on-site inspection of the System's SWTP. On February 25, 2020, I drafted a report, signed and approved by Jan Sweigert, documenting many deficiencies at the plant and necessary corrective actions. A true and correct copy of my February 25, 2020, report is attached to this declaration as **Exhibit F**. That report was rendered moot when the CZU Lightning Complex Fire destroyed the SWTP and damaged other parts of the System in mid-August 2020. As a result of the destruction of the SWTP, the System was left with only one water source – Well 4, which up to that time, according to the Owners, had been used as a backup source at certain times of the year.

23. On August 19, 2020, in addition to attempting to contact the System, I emailed SJWC seeking information on the fire's impact on the System, since to my knowledge, SJWC was still in the process of purchasing the System from the Owners. Jake Walsh, Director of Capital Planning & Asset Management at SJWC, responded to my inquiry stating SJWC had not had any contact with Jim Moore for about a month and that SJWC's right to exclusively negotiate a purchase and sale agreement had expired. He also told me Jim Moore had made a monetary request that was under evaluation by SJWC's leadership and SJWC had stopped working with the System on all water system related activities. This is the first notice I received that the sale of the System to SJWC was no longer in process.

24. After the fire, the Division required the System to issue a Do Not Drink / Do Not Boil Notice from August 2020 through January 2021. Under certain circumstances, a Do Not Drink / Do Not Boil Notice is issued during fires, specifically when the fire damages water system infrastructure and depressurization occurs. Under these set of circumstances, leaching from volatile organic chemicals is known to occur and exposure to the water or vapors produced by boiling the water may adversely impact public health. In my professional opinion, following the CZU Lightning Complex Fire, the Owners did not have the necessary technical and managerial capacity, nor did they supply the necessary financial resources, to return the System to an acceptable level of operation, much less operation in compliance with all regulatory requirements.

25. Despite knowing the CZU Lightning Complex Fire had increased the seriousness of the System's source capacity deficiency, and despite my efforts to work with the System on resolving this issue, the System continued in its failure to take steps to correct this deficiency. Accordingly, on April 9, 2021, the Division issued Compliance Order 02_05_21R_001 to the System. Directives 1, 2, 3, 4 and 7 in the Compliance Order directed the System to correct its violations of the source capacity regulations, including to obtain a second water source or establish a permanent interconnection to a nearby water system in the event Well 4 fails or is out of service for any reason. A true and correct copy of Compliance Order 02_05_21R_001 is attached to this declaration as **Exhibit G**.

26. To date, the System has not complied with Directives 1, 2, 3, 4 and 7 in Compliance Order No. 02_05_21R_001. The System's continued reliance on Well 4, alone, is of extreme concern because Well 4 cannot satisfy the System's source capacity requirement. In addition, the Division considers it unreliable and inadequate for a public water system of the System's size to have only one water source. The only identifiable measures the System has taken to mitigate the risks of using Well 4 as its sole water source has been to tell its customers to conserve water, *i.e.*, to reduce demand on the System.

27. Since the fire, the System has proposed two potential solutions to resolve its source capacity deficiency, neither of which have been implemented. The System's first proposed solution was to install a temporary surface water treatment plant at the site of the former SWTP. In connection with this proposal, I was contacted by Tom Adcock, the owner of another public water system in my jurisdiction, who told me he wanted to help the System and had retained the engineering firm Lumos & Associates for the project. That was followed by a letter from the System dated June 10, 2021, requesting an extension of time to comply with the directives in Compliance Order 02_05_21R_001 so that the System could install a temporary surface water treatment plant. In that letter, Jim Moore stated that the System "is proceeding in earnest to address the most pressing concern at this time—securing an additional source of water to alleviate the current demand on Well No. 4." A true and correct copy of the System's June 10, 2021, letter to the Division is attached to this declaration as **Exhibit H**.

28. Thereafter, I and Shaminder Kler worked with Lumos & Associates on the technical details and plans for the temporary surface water treatment plant throughout the Summer and into the Fall of 2021. Approval of a surface water treatment plant is one of the most detailed and time-consuming processes for the Division given the many regulatory requirements and complexities involved. I directed Mr. Kler to make the System's project his number one priority, and he spent more than 68.5 hours working with Lumos & Associates on the project. The time and resources spent by Lumos & Associates was also substantial, involving on-site studies, surveys and the preparation of engineering plans and other documents. Mr. Kler and I reviewed many of these documents and provided detailed input and comments. The last submission the Division received was on October 29, 2021, when Lumos & Associates submitted the System's Watershed Sanitary Survey Update. A true and correct copy of the System's Watershed Sanitary Survey Update is attached to this declaration as **Exhibit I**.

29. In early 2022, I was on-site conducting an inspection of the System with Jim Moore and did not see any sign of the installation of a temporary surface water treatment plant. Jim Moore informed me that the project was not moving forward and provided no other details. The considerable work and many months spent by Lumos & Associates, Mr. Kler and I resulted in no solution to what Jim Moore acknowledged was a serious and pressing concern with the System.

30. The System's second proposed solution was to drill a new well. Rather than pay for or finance construction of a new well, the Owners have informed me that the System is trying to get grant money from the State to fund the project. On December 13, 2022, I sent an email to Shirley Moore requesting a copy of the grant application that she reported had been submitted by the System, and Shirley Moore responded by sending me a two-page document she represented was the grant application prepared by a third party. A true and correct copy of my email exchange with Shirley Moore, with attachments, is attached to this declaration as **Exhibit J**.

31. The first page of the grant application provided by Shirley Moore is entitled "Attachment 1, Part I – Application Cover Sheet" and was signed by Jim Moore on November 29, 2022. The document indicates the System applied for a grant in the amount of $400,352 from the California Department of Water Resources for a project under the Small Community Drought

Relief Program for the construction of a Drought Contingency Well. Shirley Moore did not provide me with the other pages of the Application that were presumably submitted with "Attachment 1." The second page provided by Shirley Moore is the first page of a corporate resolution that refers to the construction of a well "in response to a drought scenario, as defined by Water Code section 13198(a)." Water Code section 13198(a) states that certain grant funding may be available due to "conditions arising from a drought scenario." In June 2023, I checked the status of the System's application with the Small Community Drought Relief Program. I was told that there are many applications ahead of the System's application and that unless the program receives additional funding, it is unlikely the System will ever obtain funding through the program. I therefore do not consider this to be a viable option for resolving the System's serious source capacity deficiency.

32. In 2023, I learned of a Request for Technical Assistance that was submitted by the System to the State Water Resources Control Board's Division of Financial Assistance applying for Drinking Water State Revolving Loan Funding for the construction of a new well and piping "to meet both drought contingency requirements and replacement for a surface water source lost in the 2020 Lightening [sic] Fire." However, the Request for Technical Assistance, which appears to have been prepared by a third party "Grants Coordinator," states the System serves a disadvantaged community, which is not accurate. Serving a disadvantaged community qualifies a public water system for certain State financial and technical assistance that is not available to systems who do not serve a disadvantaged community, such as the System. A true and correct copy of the Request for Technical Assistance that I received from the Division of Financial Assistance is attached to this declaration as **Exhibit K**. The viability of this application, which appears to still be in process, is also questionable, and the System has not provided me with any information on the status of the application, including when it will be completed.

33. To my knowledge, other than these two attempts by the Owners to obtain grant funding from the State, the System is not pursuing any other avenues to fund the $400,352 or more needed to construct a new well or otherwise correct the System's source capacity deficiency. More than four years after issuance of the 2018 Sanitary Survey Report, the System's

source capacity deficiency has only worsened. In my professional opinion and based on my more than 5 years of experience regulating the System and engaging with the Owners, the System does not have any viable plan in place to correct the critical source capacity deficiency nor do the Owners have the ability to execute on a plan through completion.

The System's Continuing Operational Failures, Water Outages and Its Failed Attempt to Consolidate with San Lorenzo Valley Water District

34. While the System has, for many years, been out of compliance with its regulatory obligations as a public water system, its failures are now increasingly putting its customers' health at greater risk and causing them to regularly suffer from a lack of reliable water service.

35. On June 27, 2021, three of the System's customers reported a water outage to the Division impacting their homes located in the System's Galleon Heights pressure zone. The customers also reported that they had emailed and telephoned the System but received no response. At my direction, the System issued a Boil Water Notice on June 28, 2021, to all impacted customers. The System reported to me that the reason for the water outage was a loss of pressure caused by a faulty 100-amp breaker that in turn caused the Galleon Heights booster station to shut down. On August 19, 2021, the Division issued Citation No. 02_05_21C_021 to the System directing it to submit a plan to the Division to replace the pumps and appurtenances at the Galleon Heights booster station and install reliability features, including backup power capabilities. A true and correct copy of Citation No. 02_05_21C_021 is attached to this declaration as **Exhibit L**. To date, the System has not complied with Citation No. 02_05_21C_021.

36. On October 28, 2021, the Division issued Citation No. 02_05_21C_030 to the System for failing to comply with its regulatory obligations, for failing to respond to the Division's formal enforcement actions (*i.e.*, the Compliance Order and previous Citations), and assessing a fine of $21,000.00. A true and correct copy of Citation No. 02_05_21C_030 is attached to this declaration as **Exhibit M**. In my cover letter to the System accompanying the Citation (Exhibit M, pp.1-2), I informed the System that the Division was considering additional enforcement options, including seeking the appointment of a receiver for the System. To date, the System has

not complied with the Citation and it was only in May 2023, after the debt was sent to a third party debt collector, that the Owners made a small $1,750 payment on the $21,000 fine.

37. After the Owners received Citation No. 02_05_21C_030 and my cover letter, I was informed by the Owners and Rick Rogers, District Manager for SLVWD, that the System had agreed in writing to pursue consolidation of the System and SLWVD as a solution for its many compliance issues. A true and correct copy of the Owners' letter to SLVWD regarding consolidation dated October 26, 2021, which I obtained from Board of Directors SLVWD Agenda dated November 4, 2021, available at https://www.slvwd.com/sites/g/files/vyhlif1176/f/agendas/bod_meeting_agenda.11.4.21_with_backup_0.pdf, is attached to this declaration as **Exhibit N**.

38. SLVWD is a public water system in the Monterey District. Its service area borders the System's service area. For some time, elected officials serving the System's customers had urged Jim Moore to merge the System with SLVWD, including in a letter dated April 19, 2021, sent by Assemblymember Mark Stone, California Assembly, 29th District, Supervisor Bruce McPherson, Santa Cruz County, 5th District and Senator John Laird, California Senate, 17th District, to Jim Moore. A true and correct copy of the letter dated April 19, 2021, which I obtained from Board of Directors SLVWD Agenda dated November 4, 2021, available at https://www.slvwd.com/sites/g/files/vyhlif1176/f/agendas/bod_meeting_agenda.11.4.21_with_backup_0.pdf, is attached to this declaration as **Exhibit O**.

39. Consolidation is the joining of two public water systems into a single system, which commonly includes the smaller water system (e.g., the System) being absorbed into the larger water system (e.g., SLVWD). The smaller system is dissolved and is no longer responsible for providing service. Consolidation fosters organization and connectivity among neighboring water systems. It also leverages economies of scale to create sustainable systems that can properly fund operations and make needed capital improvements, thereby better serving water customers.

40. Consolidation of water systems is a multi-staged process. Following the Owners' letter dated October 26, 2021, to SLVWD, I communicated with Rick Rogers regarding the potential consolidation of the System and SLVWD, including challenges SLVWD was

encountering in moving forward with consolidation. SLVWD is a special water district that operates under the County Water District Law (Water Code Sections 30000, *et. seq.*) and as such, Rick Rogers told me that SLVWD could not and would not complete a consolidation if it required SLVWD's existing customers to pay the costs of repairing and/or improving the System. For a consolidation with SLVWD to work, the funding to repair and improve the System would need to come from another source. Rick Rogers also told me that he and the Owners had considered selling some of the hundreds of acres of watershed land owned by the System to a local land conservancy to fund consolidation. However, an acceptable deal could not be worked out by the parties. As discussed in paragraph 49 below, SLVWD ultimately terminated negotiations with the System in February 2023, based on the failure to come up with an agreement on how the costs of consolidation would be funded.

41. During the time SLVWD and the System explored a consolidation, the System did not enter into an interim management or other agreement with SLVWD, leaving the System responsible for its own continued operations. Although not obligated to do so, SLVWD repeatedly provided the System with technical knowledge and on the ground support to fix the System's operational problems. I witnessed the work performed by SLVWD and communicated with Rick Rogers and his staff as they made repairs to the System and extended technical assistance. Many of the System's problems and the water outages discussed in paragraphs 44 to 48 below would not have been timely addressed nor would the System's customers have been returned to service when they were but for SLVWD.

42. On February 10, 2022, Shaminder Kler and I conducted an on-site inspection of the System's facilities along with Damian Moore and SLVWD representatives Rick Rogers, James Furtado and Nate Gillespie. A true and correct copy of the inspection report that Mr. Kler and I prepared following this inspection entitled 2022 Sanitary Survey Report dated June 15, 2022, is attached to this declaration as **Exhibit P**. Similar to the 2018 Sanitary Survey Report, the 2022 Report detailed the many deficiencies found during my February 2022 inspection and the System's continuing failure to respond to or comply with the Division's past directives, corrective measures and enforcement actions. On June 16, 2022, I sent a second communication to the

System identifying a significant deficiency with the Oberst Finished Water Storage Tank that I identified during the February 10, 2022, inspection. A true and correct copy of my June 16, 2022, letter to the System is attached to this declaration as **Exhibit Q**.

43. In July 2022, several customers notified the Division that they were experiencing frequent water outages. After the fire, it became common that my District staff and I would learn of water outages from the customers and not from the System. In addition, the System's customers reported to me and my staff that the System regularly failed to respond to their telephone and email inquiries about water service. It is the System's obligation to report water outages to the Division, and to also communicate with and be responsive to its customers.

44. As a result of the July 2022 water outages, the System issued a Boil Water Notice to impacted customers on July 26, 2022. Jim Moore reported to me and my staff that the water outage was caused by a power failure, during which Well 4 cannot pump and the Well 4 tank quickly runs dry. This in turn leads to water outages in the higher elevations of the System's distribution system.

45. Thereafter, District staff and I had numerous communications with the Owners regarding the need to secure and install a back-up power source at Well 4. The Owners either did not respond to our communications or they stated they were looking into securing a backup generator. In September 2022, customers in the Tradewinds / Galleon Heights pressure zone complained to the Division about more water outages. When Jim Moore again responded to the District's inquiries about installation of a generator at Well 4 with more delay, the Division issued Citation No. 02_05_22C_060 on September 22, 2022. A true and correct copy of Citation 02_05_22C_060 is attached to this declaration as **Exhibit R**. The Citation directed the System to install backup power at the System's sole water source—Well 4—and assessed a penalty of $12,500.00.

46. In response to Citation No. 02_05_22C_060, SLVWD loaned the System a generator, which was deployed at Well 4. In a letter dated September 29, 2022, the System asked the Division to waive the $12,500 penalty, stating: "We will serve our customers better and safer if we can spend the little money, [sic] we do bring in on addressing the issues you bring up." After

the System provided proof to the Division that a backup generator was installed at Well 4, the Division agreed to permanently suspend the penalty. A true and correct copy of the System's letter to the Division, along with my response agreeing to permanently suspend the penalty, is attached to this declaration as **Exhibit S**. Thereafter, the System did not spend the $12,500 suspended penalty or any other money to purchase its own backup generator.

47. Over the 2023 New Year holiday weekend, a storm struck Santa Cruz County and the System's service area. Power was out for the region and the System's customers lost water service. I was provided updates regarding the water outage by both SLVWD and the Owners, who reported that the motor starter in Well 4 failed. A water main also failed due to a road collapse and a booster pump was damaged by the storm, leaving six System customers without any water supply. The System issued a system-wide Boil Water Notice. Customer complaints poured into the Division. Well 4's failure and the water outage due to the failed water main were resolved through mutual assistance provided by SLVWD.

48. In January and February 2023, more storms struck the System's service area, leading to many more water outages and more Boil Water Notices. While the Winter 2023 storm events caused service problems for other water systems in my District's jurisdiction, the duration and seriousness of the System's water outages went far beyond what was experienced by functioning systems. The System's operational difficulties and substandard infrastructure have become so severe that what should be an ordinary repair—fixing a leaking pipe—now causes customers to lose water service because the system loses pressure during the repair. In addition, on July 2, 2023, the System reported a water outage due to one very large leak plus heavy usage by System customers during hot weather. A properly functioning system with sufficient source capacity and the ability to maintain proper pressure should not experience a water outage due to these events. A related concern is the impact these deficiencies have on the ability to fight fires in the System's service area. In addition to its obligation to provide its customers with residential water, the System must also provide adequate fire flow to fight fires. Adequate fire flow is dependent on adequate source capacity and pressure. Because the System is deficient in these areas, there is greater risk of loss due to fires in addition to the public health concerns with the System's

operations. My staff and I track unsafe water notifications for public water systems within the Monterey District's jurisdiction. The Table below sets forth the System's unsafe water notifications from July 2022, to the present:

Type of Advisory	**Date and Time Issued**	**No. Service Connections Affected**	**Advisory Reason**
Precautionary Boil Water Notice	7/23/2022, 2:00 PM	25	Loss of pressure
Precautionary Boil Water Notice	9/27/2022, 4:30 PM	20	Loss of pressure due to service line leak
Precautionary Boil Water Notice	10/5/2022, 5:30 PM	40	Main break - unknown cause
Precautionary Boil Water Notice	1/2/2023, 9:00 AM	40	Main break – accident. China Grade Road washed out in the storm, which also destroyed a 4" water main. For 40 customers, the System rerouted their supply, but there are six customers without water and no clear timeline on when water will be restored.
Precautionary Boil Water Notice	1/6/2023, 3:00 PM	All	Loss of pressure. The System is experiencing storm impacts, including water outages in upper pressure zones. Their only water source, Well 4, has a motor issue that is being worked on, but we do not have a timeline on when the well will be operational again.
Precautionary Boil Water Notice	1/6/2023, 3:00 PM	9	Main break - aging infrastructure. Previously issued systemwide BWN lifted on 1/31/2023, except for the 9 residences at China Grade and Branson Ranch Rd, due to lack of bacteriological testing at these locations.
Precautionary Boil Water Notice	2/7/2023, 6:05 PM	Unknown	Loss of pressure. The System was completing a routine leak repair and had a planned outage at "Unit 3" at Boulder Creek Country Club, however there were several additional areas in higher

Type of Advisory	Date and Time Issued	No. Service Connections Affected	Advisory Reason
			elevations that also experienced outages due to the water being shut off at Unit 3
Precautionary Boil Water Notice	2/28/2023, 2:45 PM	All	Loss of pressure. A leak on a 2-inch lateral caused widespread outages. The System proposed to send the boil water notice to the areas that they received complaints from, but Division responded this is not acceptable unless they can support the targeted area with a hydraulic profile.
Precautionary Boil Water Notice	3/22/2023, 1:00 PM	11	Loss of pressure. Due to power outages, the System is relying on a generator to supply customers at higher elevations. The generator ran out of gas causing outages at Galleon Heights pressure zone on Tradewinds Drive. The System was notified of the outage by a customer complaint.
Precautionary Boil Water Notice	3/26/2023, 4:29 PM	10	Loss of pressure
Precautionary Boil Water Notice	3/27/2023, 5:47 PM	25	Loss of pressure. According to the System, they experienced power issues at their only water source, Well 4, which led to water outages to their highest elevation customers.
Precautionary Boil Water Notice	4/21/2023, 6:30 PM	11	Loss of pressure
Precautionary Boil Water Notice	5/7/2023, 9:00 AM	24	Loss of pressure. According to the System, a lateral leak caused a water outage at the Unit 2 area of the Boulder Creek Country Club condos and at two houses at the top of the system.
Precautionary Boil Water	5/25/2023, 7:46 PM	All	Main break resulting in loss of pressure.

Type of Advisory	Date and Time Issued	No. Service Connections Affected	Advisory Reason
Notice			
Precautionary Boil Water Notice	7/2/2023, 4:30 PM	5	Large leak plus heavy usage during hot weather resulting in water outage

49. Compounding the System's serious operational problems is its customer communication failures. For years, the System's customers have complained to me and District staff that the System does not answer their phone calls or respond to their emails. In January 2023, the System reported to me it was unable to deliver Boil Water Notices in accordance with the California Code of Regulations, title 22, section 64463.1 because the System does not maintain a list of customer contact information. The System's proposed solution was to post the Boil Water Notices on its website, which is not an authorized method of public notification under section 64463.1 and is particularly inappropriate because the System's website is not regularly maintained and historically contains outdated information. The System's methods of communication, including its failures to communicate with its customers and the public, create confusion and present a danger to public health. Attached as **Exhibit T** are true and correct copies of emails sent to the Division by customers of the System. These customer emails are representative of the type of reports and complaints I received regarding the System, and I and my staff received many, many more such customers complaints during the time I have had job responsibilities for the System.

50. In February 2023, Rick Rogers told me that SLVWD made the decision to suspend efforts to pursue a consolidation with the System and was terminating negotiations. This decision was publicly announced at SLVWD's Board of Directors meeting held on February 16, 2023. As Rick Rogers told me on numerous occasions, the main obstacle to a consolidation of the System with SLVWD was finding the money necessary to fund the consolidation. Since SLVWD is a special district, there are potential State-funding sources available to SLVWD to consolidate the System that are not available to a privately held company wanting to purchase the System. Beginning in 2022, I investigated those State-funding sources to help facilitate consolidation

discussions between the System and SLVWD but ceased doing so when told of SLVWD's decision to terminate negotiations with the Owners.

51. In June 2023, I learned from Rick Rogers that some months earlier, SLVWD had taken back the generator it loaned to the System and deployed at Well 4, and the System is renting another generator. The Owners did not inform me or the Division that SLVWD had taken back its generator at the time of this event. This is another example of how I learn of critical facts regarding the System's operations from third parties and not the Owners, and how the Owners fail to take actions to bring the System back into compliance and instead rely on half-measures, at best. Those half-measures and other temporary fixes do not constitute compliance and they put System operations, and customers, at risk.

The Division's Attempt to Come to an Agreement with the Owners on the System's Future and the Contract with Central States Water Resources

52. After Rick Rogers told me of SLVWD's termination of consolidation efforts, the State Water Resources Control Board's Office of Enforcement (OE) sent a letter to the Owners on behalf of the Division detailing the Division's failed efforts to obtain the System's compliance with its statutory and regulatory obligations and its non-responsiveness to the Division's directives and enforcement actions. In the letter, OE requested an in-person meeting to discuss the appointment of a receiver for the System. A true and correct copy of OE's letter on behalf of the Division dated February 28, 2023, is attached to this declaration as **Exhibit U**. In response, the Owners agreed to attend a meeting on March 14, 2023.

53. Also after Rick Rogers told me of SLVWD's termination of consolidation efforts, I was told by a Wilson Tsai, a Program and Project Supervisor at the California Public Utilities Commission (CPUC), that the Owners had re-engaged with an out-of-state company named Central States Water Resources (CSWR) regarding the potential sale of the System to CSWR. In the Summer of 2022, a CSWR representative sent me an email asking to discuss the System, but there was no follow through, and I did not hear of CSWR again until February 2023.

54. On March 14, 2023, I attended a meeting with Stefan Cajina, Laura Mooney and Jim and Shirley Moore at the Santa Cruz Board of Supervisor's Meeting Room in Santa Cruz. Also

attending that meeting was Jim and Shirley Moore's son and chief system operator, Damian Moore, who along with the Moores are the only persons who are regularly engaged in operating the System. At that meeting, we all agreed that the compliance issues with the System are grave and that both short term and long-term solutions are needed. The Moores stated they had executed a contract with CSWR for the sale of the system to CSWR and gave us a copy of that contract, which is dated March 9, 2023. A true and correct copy of the contract delivered by the Moores at the March 14, 2023, meeting is attached to this declaration as **Exhibit V**. The contract sets forth a process for the potential sale of the System as well as a small (29 connections) dilapidated wastewater treatment system operated by the Owners. In addition to the $2.5 million sales price, the Moores told us at the March 14th meeting that they expect a final sales contract to include terms allowing the Moores to retain hundreds of acres of watershed land owned by the company.

55. At the meeting, Mr. Cajina, Ms. Mooney, and I asked the Owners to stipulate to the appointment of a receiver for the System. We also asked at and after the meeting that the Owners agree to meet with the Division's candidate for receiver, Curtis Wright. After the meeting, Shirley Moore sent an email stating a receiver was not needed because of the contract with CSWR. The Owners did not agree to meet with Mr. Wright.

56. The sale of an investor-owned, CPUC-regulated water utility such as the System to another privately owned entity such as CSWR is typically a long process. CSWR and the Owners must obtain CPUC's approval for the sale, which I have been told by Wilson Tsai at CPUC can take many months, if not a year or more. In addition, pursuant to Water Code § 116524, any change in ownership of the System requires the new owner to apply to the Division for new permit to operate a public water system in the System's service area. Obtaining a permit to operate a public water system is a detailed process designed to ensure the new owner has the technical, managerial and financial capacity to operate the system. Any new permit applicant seeking to operate the System will need to address significant issues to obtain a permit from the Division. It can take anywhere between three to twelve months after receipt of a complete permit application package for the Division to complete its process of reviewing, approving and issuing a new permit in connection with the transfer of a system to a new owner. A complete permit

application package must include all supporting documentation to prove the new owner has the technical, managerial, and financial capacity to sustainably operate the public water system in compliance with all federal and state drinking water rules. The required submissions are extensive, and, in my experience, it can take an applicant many months to several years for the Division to deem the application complete. To date, the Division has not received a permit application with supporting documentation from any potential purchaser seeking to take over operations of the System. On April 28, 2023, at my direction, Kyle Graff sent an email to Enrique Chavez, Jr. at CSWR regarding the documentation and information required by the Division to evaluate any future request for a change of ownership for the System. A true and correct copy of the Division's email exchange with Mr. Chavez from April 21, 2023, through April 28, 2023, is attached to this declaration as **Exhibit W**.

57. The Owners have not identified any plan for returning the System to compliance either in the short term or during the lengthy time it would take to execute any final sale to CSWR. On April 13, 2023, I had my first call with CSWR staff representing CSWR's engineering team, who told me they had just begun conducting their engineering and other assessments of the System, including that they had not yet physically inspected the System or conducted any surveys. They told me they were aware of the Citations and Compliance Order previously issued to the System by the Division but had not yet reviewed those documents in detail. I sent the active enforcement actions issued to the System to Enrique Chavez, Program and Compliance Manager at CSWR, on April 24, 2023. By email dated May 12, 2023, Enrique Chavez Jr., provided an update that CSWR performed a site walkthrough during the last week of April and CSWR hired an engineering consultant, Kimley Horn, to provide an engineering memo summarizing their assessment of the System. The last communication I had with Mr. Chavez regarding the System was the email I received on May 12, 2023. To date, neither the Owners nor CSWR has provided me with any agreed-upon timeline related to their contract and the potential sale process.

58. Given the Owners' history of failed attempts to transfer ownership of the System, including to SJWC and SLVWD, I doubt their ability to negotiate final terms with CSWR and

close a sale, assuming CSWR agrees to proceed with a purchase after it conducts its technical and other assessments of the System. In addition, CSWR is an out-of-state company that has never operated a public water system in California. It naturally may need additional time to become familiar with California law and its regulatory landscape, which includes agencies other than the Division. In the meantime, the System's operational problems will continue and become worse if the Owners continue to operate the System as they have done to date, and the System's customers will not have a reliable source of adequate and healthful drinking water.

The Rate Case with the CPUC and Lack of Financial Investment in the System

59. In addition to lacking the technical and managerial capacity to operate the System, the Owners have not invested the necessary money or otherwise obtained working capital to operate the System, including during the time it will take for any sale of the System to be approved and closed.

60. The Owners have stated to me on multiple occasions that the System does not generate sufficient revenue from its customers under its current rate structure. It is the System's responsibility to seek approval from the CPUC for all rate increases, which the System has historically failed to do. In 2022, the Owners represented to me that the System submitted an application to CPUC seeking to raise customer rates. In December 2022, at my request, Shirley Moore emailed me a copy of what she represented was the System's application to the CPUC for a rate increase. A true and correct copy of Shirley Moore's email attaching the single page document she represented to me constituted the System's application to the CPUC for a rate increase is attached to this declaration as **Exhibit J**.

61. As shown on that document, the System is seeking CPUC approval for a customer rate increase that will generate an additional $271,613 in annual revenue. On March 16, 2023, I received from Wilson Tsai at the CPUC the full application submitted by the System for its requested rate increase, which included many pages omitted from Shirley Moore's December 14, 2022, email to me. A true and correct copy of the System's full application for its requested rate increase that I received from Wilson Tsai at the CPUC is attached as **Exhibits B and C** to the Declaration of Wilson Tsai filed in connection with this application.

62. As documented on page 2 and **Exhibit A** to the complete version of the System's rate increase application (Exhibit B to Tsai Decl.), the System received insurance proceeds of $497,924.29 for damage suffered in the CZU Lightning Complex Fire. The first time I learned that the System received any insurance proceeds after the fire was when I reviewed the System's full application provided by the CPUC. Earlier, by email on October 3, 2022, Shirley Moore provided me with a copy of Big Basin Water Company's Profit and Loss Statement for January through December 2021, in the context of discussing the System's finances. A true and correct copy of Shirley Moore's October 3, 2022, email is attached to this declaration as **Exhibit S**. The Owners did not mention then or at any time that the System received $497,924.29 in fire insurance proceeds, nor did the System submit a document to me or to the Division disclosing receipt of $497,924.29 in insurance proceeds.

63. The Owners have made statements in connection with their pending rate increase application indicating the System incurred debt because some customers did not pay their water bills during the Covid-19 pandemic. The California Water and Wastewater Arrearage Payment Program (the Arrearage Program) is a program administered by the State Water Resources Control Board for the purpose of fully or partially forgiving water customer debt that accrued during the Covid-19 pandemic bill relief period of March 4, 2020, to June 15, 2021, inclusive (Health & Safety Code §§ 116773 et seq). The Arrearage Program was open to all California public water systems and required the system to submit an application identifying customer billing arrearages that accrued during the Covid-19 pandemic bill relief period. The Arrearage Program then issued a payment directly to the water system for the amount of those arrearages. The system in turn issued bill credits to customers with qualifying bill arrearages. I confirmed with Arrearage Program staff that the System did not apply for and therefore did not receive any funding under the Arrearage Program.

Exhaustion of all Regulatory Compliance Tools and the Need for a Receiver

64. The Owners are aware of the serious deficiencies with the System and that as a result, its customers are being harmed. For example, on December 12, 2022, Shirley Moore sent me an email citing the hardships being suffered by the System's customers following the CZU Lightning

Complex Fire and requested that the Division waive all outstanding fines, which would include the $21,000 fine assessed in Citation No. 02_05_21C_030. Shirley Moore wrote "[i]f we are to pay fines instead of completing CZU [fire] repairs, families will greatly suffer and some will lose their properties." A true and correct copy of Shirley Moore's December 12, 2022, email is attached to this declaration as **Exhibit J**.

65. I have confirmed with CPUC staff that as a regulated CPUC water utility, penalties assessed in citations issued by the Division must be paid by the owners of the utility—*i.e.*, Big Basin Water Company, Inc. and its owners, Jim and Shirley Moore—and is not a cost that can be passed on to rate payers. If and when the System pays financial penalties assessed by the Division, that money is deposited into the State's Safe Drinking Water Account (Health & Safety Code § 116590), meaning the money is not used to repair the System and the System's customers obtain no direct benefit.

66. Although the Division did waive the $12,500 penalty imposed in Citation No. 02_05_22C_060 after SLVWD loaned BBWC a backup generator, the Division has not waived the $21,000 penalty imposed in Citation No. 02_05_21C_030. Neither imposing the $21,000 fine nor imposing and then waiving the $12,500 fine resulted in the System returning to compliance. Based on my years of handling regulatory matters for the System and after using every tool I possess to compel compliance, I have concluded that neither issuing additional citations with penalties, or waiving penalties already imposed, or issuing more compliance orders will be effective to compel the System to comply with the California Safe Drinking Water Act and implementing regulations. The System's owners—Big Basin Water Company, Inc., and its sole directors and shareholders the Owners—do not respond to the Division's rules and orders, and they are unable or unwilling to adequately serve its users.

67. As part of my duties related to the System, I speak with staff members from other government agencies and I attend bimonthly meetings along with staff from the California Regional Water Quality Control Board, Central Coast Region (Central Coast Regional Board) and the CPUC to discuss issues relevant to the System and the System's Owners. The Owners have been the subject of numerous other enforcement actions taken by other agencies, including (1)

Cleanup and Abatement order No. R3-2022-0077 issued by the Central Coast Regional Board on November 21, 2022, requiring Big Basin Water Company, Inc. and Jim Moore to address imminent threats to human health and water quality and ordering remediation action in connection with a wastewater treatment plant (WWTP) operated by the Owners in the Big Basin Woods subdivision in Boulder Creek; (2) Notice of Violation issued by the CPUC on December 14, 2022, to Big Basin Water Company, Inc. for failing to furnish and maintain safe and reliable wastewater service to its customers and the public and failing to comply with the Central Coast Regional Board's permit requirements and formal enforcement action; (3) Notice of Violation issued by the State Water Resources Control Board's Office of Enforcement to Big Basin Water Company, Inc. and Jim Moore on December 29, 2022, for employing an operator without a valid, unexpired operator certificate, failing to maintain a chief plant operator at the correct grade level and allowing permit violations in connection with the Owners' operation of the WWTP facility; and (4) two additional Notices of Violation issued by the Central Coast Regional Board on January 19, 2023, to Big Basin Water Company Inc. and Jim Moore related to the WWTP facility. A true and correct copy of each of these enforcement actions that I received from the issuing agency are attached to this Declaration as **Exhibits X through BB.**

68. The Division has determined that a receiver is needed because the Owners have demonstrated they are unable or unwilling to respond to and address the System's compliance issues. These violations pose a substantial threat to the health and safety of the System's customers. The Owners have been unresponsive to the Division's directives, the Compliance Order and many Citations. They are unavailable to the System's customers and unresponsive to their legitimate complaints. They lack the technical and managerial capacity to run the System, and they have failed to commit the financial resources necessary to run a public water system. A receiver needs to be appointed to perform repairs necessary to stabilize the system, oversee its day-to-day operations, develop a plan to address the system's compliance issues, ensure ownership of the system is transferred to a viable new operator, and restore communication and productive relationships with customers. I believe that leaving the system under the Owners'

control while a potential sale to CSWR is pending or another option for transferring ownership is explored would continue to put the public at risk.

69. The Division nominates Curtis Wright to serve as Receiver. I have met with Mr. Wright and we discussed the Division's intent to seek a receivership for the System and Mr. Wright's relevant experience. In consultation with my supervisor, Stefan Cajina, who attended my meetings with Mr. Wright, the Division has determined that Mr. Wright has the knowledge and ability to effectively address the issues the System faces and to serve as a receiver for the System.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration was executed on July 6, 2023, in Monterey, California.

Jonathan Weininger

Digitally signed by Jonathan Weininger
Date: 2023.07.06 16:20:08 -07'00'

JONATHAN WEININGER

OK2023400771

EXHIBIT A

Chronology of the System's Non-Compliance Since 2019

2018

09/12/18 & 10/17/18
Division conducts onsite inspection of System (Decl., ¶10)

2019

01/10/19
Division issues 2018 Sanitary Survey Report (Ex. B)

02/22/19
Division issues Citation No. 02_05_19C_012 (Ex. C)

03/01/19
System and San Jose Water Company (SJWC) in negotiations for sale of System (Decl., ¶16)

03/03/19
System estimates necessary corrective actions will cost $2,877,900.00 (Ex. D)

10/28/19
Precautionary Boil Water Notice (BWN) issued (Decl., ¶18)

2020

02/03/20
Divisions directs System to submit power outage plan (Ex.E)

02/25/20
Division issues report on Surface Water Treatment Plant (Ex. F)

08/16/20
CZU Lightning Complex fire begins in System's service area (Decl., ¶22)

08/19/20
Division learns SJWC and System terminated sale negotiations (Decl., ¶23)

08/20/20
Do Not Drink / Do Not Boil Notice issued (Decl., ¶24)

2021

04/09/21
Division issues Compliance Order 02_05_21R_001 (Ex. G)

04/19/21
Elected officials urge System to merge with San Lorenzo Valley Water District (SLVWD) (Ex. O)

06/10/21
System acknowledges source capacity deficiency is a pressing concern (Ex. H)

06/28/21
BWN issued (Decl., ¶35)

08/19/21
Division issues Citation No. 02_05_21C_021 (Ex. L)

10/28/21
Division issues Citation No. 02_05_21C_030 (Ex. M)

10/29/21
System submits Watershed Sanitary Survey Update (Ex. I)

11/02/21
Division issues Citation No. 02_05_21C_033 (monitoring violations) (Decl. ¶9)

11/04/21
System begins negotiations to consolidate with SLVWD (Decl., ¶37)

12/30/21
Division issues Citation No. 02_05_21C_047 (Total Coliform Rule violations) (Decl. ¶9)

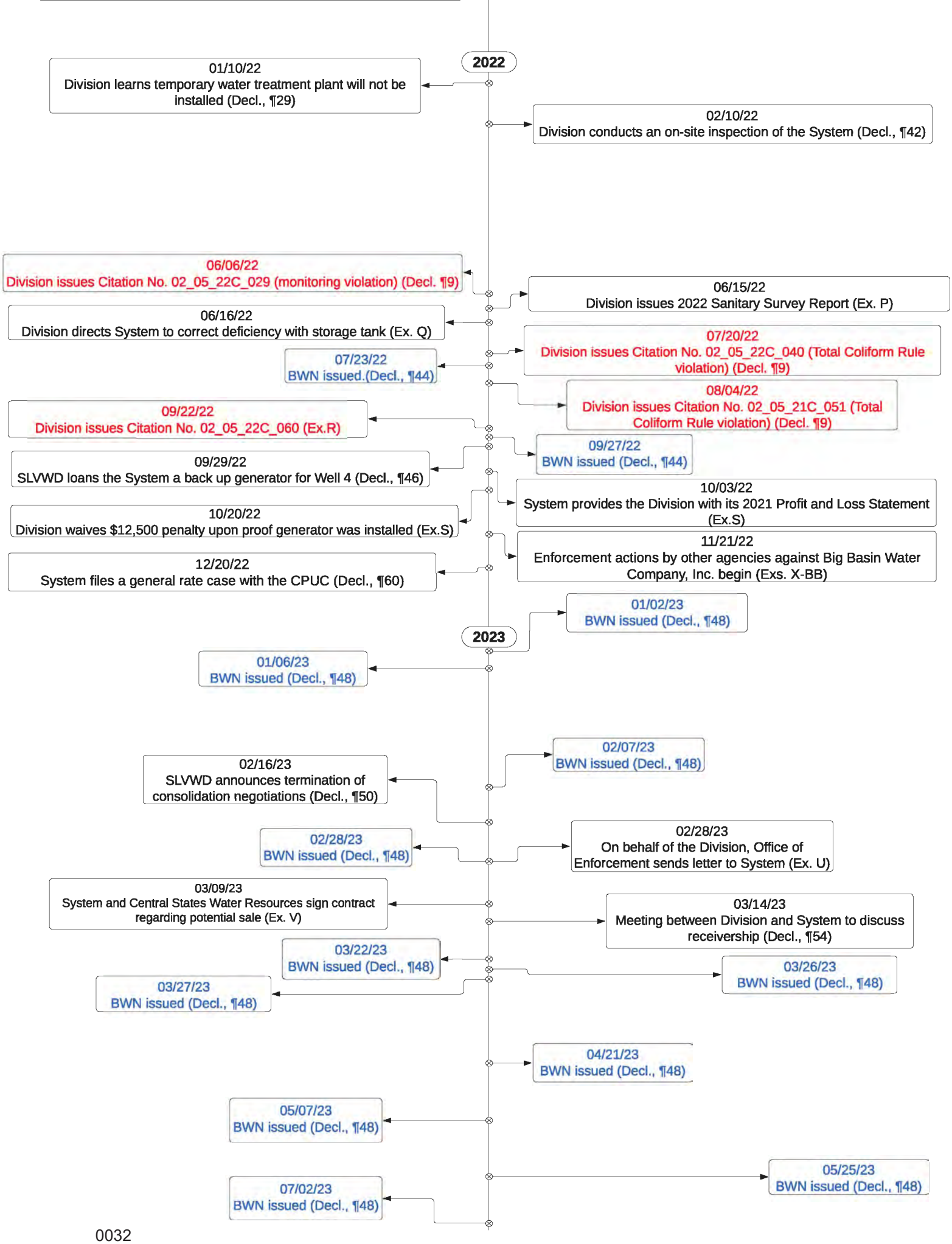
2022
01/10/22
Division learns temporary water treatment plant will not be installed (Decl., ¶29)
02/10/22
Division conducts an on-site inspection of the System (Decl., ¶42)
06/06/22
Division issues Citation No. 02_05_22C_029 (monitoring violation) (Decl. ¶9)
06/15/22
Division issues 2022 Sanitary Survey Report (Ex. P)
06/16/22
Division directs System to correct deficiency with storage tank (Ex. Q)
07/20/22
Division issues Citation No. 02_05_22C_040 (Total Coliform Rule violation) (Decl. ¶9)
07/23/22
BWN issued.(Decl., ¶44)
08/04/22
Division issues Citation No. 02_05_21C_051 (Total Coliform Rule violation) (Decl. ¶9)
09/22/22
Division issues Citation No. 02_05_22C_060 (Ex.R)
09/27/22
BWN issued (Decl., ¶44)
09/29/22
SLVWD loans the System a back up generator for Well 4 (Decl., ¶46)
10/03/22
System provides the Division with its 2021 Profit and Loss Statement (Ex.S)
10/20/22
Division waives $12,500 penalty upon proof generator was installed (Ex.S)
11/21/22
Enforcement actions by other agencies against Big Basin Water Company, Inc. begin (Exs. X-BB)
12/20/22
System files a general rate case with the CPUC (Decl., ¶60)
01/02/23
BWN issued (Decl., ¶48)
2023
01/06/23
BWN issued (Decl., ¶48)
02/07/23
BWN issued (Decl., ¶48)
02/16/23
SLVWD announces termination of consolidation negotiations (Decl., ¶50)
02/28/23
BWN issued (Decl., ¶48)
02/28/23
On behalf of the Division, Office of Enforcement sends letter to System (Ex. U)
03/09/23
System and Central States Water Resources sign contract regarding potential sale (Ex. V)
03/14/23
Meeting between Division and System to discuss receivership (Decl., ¶54)
03/22/23
BWN issued (Decl., ¶48)
03/26/23
BWN issued (Decl., ¶48)
03/27/23
BWN issued (Decl., ¶48)
04/21/23
BWN issued (Decl., ¶48)
05/07/23
BWN issued (Decl., ¶48)
05/25/23
BWN issued (Decl., ¶48)
07/02/23
BWN issued (Decl., ¶48)

EXHIBIT B

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board
Division of Drinking Water

January 10, 2019

Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
bbwater197@yahoo.com

Dear Mr. Moore

2018 SANITARY SURVEY – BIG BASIN WATER COMPANY (SYSTEM NO. 4410001)

On September 12 and October 17, 2018, you accompanied Jonathan Weininger from the State Water Resources Control Board – Division of Drinking Water (Division) on a Sanitary Survey of the water system. The sanitary survey findings are summarized in the attached sanitary survey report and deficiency list.

The Division identified major deficiencies during this sanitary survey that require immediate attention and correction. Many deficiencies identified in previous sanitary surveys remain uncorrected and must be addressed without further delay.

A written response to the attached sanitary survey deficiency list is requested by ***February 15, 2019*** along with a plan to correct the deficiencies listed in the deficiency list. Please include the deficiency list along with the date of correction or planned date in the response to this letter.

If you have any questions, please contact Jonathan Weininger at (831) 655-6932 or by e-mail at jonathan.weininger@waterboards.ca.gov or me at (831) 655-6934.

Sincerely,

Jan Sweigert

Jan R. Sweigert, P.E.
District Engineer, Monterey District Office
Northern California Field Operations Branch
Division of Drinking Water

Attachments

Email cc:
Santa Cruz County Environmental Health Services

CPUC Water Division
Rami Khalon, CPUC Director - Water Division: raminder.kahlon@cpuc.ca.gov
Bruce Deberry, CPUC Water Division Bruce.deberry@cpuc.ca.gov
Adam Thaler, CPUC Water Division adam.thaler@cpuc.ca.gov

CPUC Office of Ratepayer Advocates
Pat Ma, pat.ma@cpuc.ca.gov
DRAWaterAL@cpuc.ca.gov

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER - MONTEREY DISTRICT

2018 SANITARY SURVEY REPORT

WATER SYSTEM: **BIG BASIN WATER COMPANY**
SYSTEM NUMBER: **4410001**

REPORT DATE: **January 10, 2019**
INSPECTION DATE: **September 12 and October 17, 2018**

WATER SYSTEM CONTACTS: Jim Moore, Manager

SANITARY SURVEY INSPECTIONS AND REPORT REGULATORY BACKGROUND: Applicable authority – Environmental Protection Agency (EPA) Groundwater Rule (incorporated by reference within Title 22, California Code of Regulations, Section 64430).

Attachment A of this report includes a summary of deficiencies, recommendations, and water quality reminders.

Population and Service Connection Summary

Approximate population served: **1,680**
No. of Service Connections: **601 (422 single family residential, 154 multi-family residential, 3 commercial, and 22 landscape irrigation)**

Permit Status

The State Water Resources Control Board – Division of Drinking Water (Division) issued a Domestic Water Supply Permit to Big Basin Water Company (Big Basin WC) on February 11, 1994. The Division has issued one permit amendment to Big Basin WC. The table below summarizes Big Basin WC's permits.

List of Permits		
Permit No.	**Issue Date**	**Reason**
Permit No. 02-05-44-94P-001	2/11/94	Full permit for the Big Basin WC, which at the time consisted of four surface water sources, seven storage tanks (10,000 gallon Robin Hood Tank, 42,000 gallon Robin Hood Tank, 5,000 gallon Oberst Tank, 7,000 gallon China Grade Tank, 325,000 gallon Galleon Tank, 60,000 gallon Rancho Dia Tank, and 210,000 Jamison Tank 02), five booster stations (Galleon Heights, Rancho Dia, Robin Hood, Oberst, and China Grade), the Jamison Surface Water Treatment Plant (150 gpm Microfloc Trimite Package Plant), chlorination, and a distribution system consisting of AC, PVC, and steel pipe (2" – 12").
2017PA_ SCHOOLS	1/17/2017	Requirements for lead monitoring and sample result interpretation at K-12 schools that submit a written request for assistance.

Is the water system complying with all permit requirements? **No**
Is the permit up to date? **No**

Evaluation: Big Basin WC has undergone changes since the 1994 permit that are not reflected in the permit and has not complied with conditions No. 4, 6, and 10 of Permit No. 02-05-44-94P-001.

Permit Condition No. 4 states: "The BBWC shall operate the Jamison WTP in accordance with the approved operations plan dated November 1993. Modifications to the plan to incorporate updated operating procedures shall be reviewed and approved by the Department." Big Basin WC's Jamison WTP has been modified several times since 1993 and the Division has not received a comprehensive updated operations plan.

Permit Condition No. 6 states "The BBWC shall complete a sanitary survey of their watershed by January 1, 1996 and submit a report of the survey to the Department no later than 60 days following completion of the survey in accordance with Section 64665, Title 22, CCR. A watershed sanitary survey shall be performed and a report of the survey submitted to the Department at least every five years." The Division does not have a Watershed Sanitary Survey on file for Big Basin WC.

Permit Condition No 10 states: "Plans and specifications for the chlorination facilities serving Wells 2 and 4 shall be submitted to the Department for review and approval prior to construction." The Division never received the plans for chlorination of Well 4 (Well 2 is now offline). The Appraisal of Sanitary Hazards and Safeguards section of the permit engineering report states: "Well Nos 2 and 4 do not have the required 50-foot minimum sanitary seal. Disinfection will be provided at Well Nos; 2 and 4 to ensure microbiological quality of the water produced by the wells." The 1980 Well 4 well log states the well has a 40 foot grout sanitary seal.

Recent and Proposed Upgrades

Since the last sanitary survey in 2016, Big Basin WC has completed the following system upgrades:

- 2018 – Replaced the combined filter turbidimeter components at the Jamison WTP.
- 2018 – Replaced the existing China Grade Redwood Tank with a 5,000 gallon polyethylene tank.

WATER SOURCES

List of Sources

Big Basin WC has one active groundwater source and three surface water sources treated at the Jamison Water Treatment Plant. The following table summarizes Big Basin WC's sources including source capacity.

List of Sources				
Sources	**PS Code**	**Status**	**Capacity (gpm)**	**Comments**
Surface Water – Treated at the Jamison Creek WTP				
Corvin Creek	4410001-001	Active	Maximum capacity of Jamison WTP is 150 gpm. Jamison Springs includes two intakes and is primarily used in the summer. Corvin Creek is typically used in the winter. Well 05 (13-35 gpm) is used year-round. Due to lower surface water flows, the maximum capacity used is 100 gpm.	
Jamison Springs	4410001-009	Active		
Well 05 (Horizontal Well)	4410001-010	Active		
Ground Water				
Well 04	4410001-007	Active	100-150 reported by Big Basin WC. The Division assigns the well a capacity of 72 gpm based on hard rock well requirements.	Hard rock well. Used seasonally and as a source during storm events. Chlorination is required
TOTAL ACTIVE CAPACITY			**172 gpm (0.248 MGD)**	

Production Data

Production data from the previous 10 years, as reported in Big Basin WC's electronic annual reports (EAR) to the Division, is summarized in the following table:

Past 10 Years of Production Data (2008-2017) in Million Gallons (MG)			
Year	**Max Day**	**Max Month**	**Year Total**
2017	*0.37*	7.62	64.51
2016	*0.51*	10.6	78.43
2015	*0.34*	7.09	68.38

Past 10 Years of Production Data (2008-2017) in Million Gallons (MG)			
Year	**Max Day**	**Max Month**	**Year Total**
2014	*0.48*	9.35	74.18
2013	No EAR Submitted		
2012	***0.62***	12.71	98.92
2011	*0.59*	12.21	83.38
2010	*0.43*	8.91	56.71
2009	*0.46*	9.64	54.58
2008	*0.30*	7.59	64.52

**Italicized* values indicate a calculated value using Section 64554 guidelines.

Source & Storage Capacity Evaluation

Title 22, California Code of Regulations (CCR) Section 64554 (a) requires maximum day demand (MDD) to be met with source capacity. MDD is calculated as the highest observed water demand in the past ten years. Using past annual reports and tabulated in the Production Data table, the 10 year MDD is **0.62 million gallons/day** (MGD) (2012). Big Basin WC's active source capacity is **0.248 MGD**.

The Division does not have a recent well pump test on file from Well 4. The Division has a copy of the initial 72 hour pump test performed in 1980, which established a well capacity of 288 gpm. The pump test procedure for hard rock wells is outlined in California Code of Regulations, Title 22, Section 64554 (g); the well capacity is 25% of the 72 hour pump test capacity. Following this formula, Well 4 has a capacity of 72 gpm. Big Basin WC reported the current capacity is about 100 to 150 gpm. If Big Basin WC has a more recent pump capacity test, please send the test to the Division for review.

If Big Basin WC has documentation that supports a higher capacity for the surface water treatment plant, please send the documentation to the Division. The capacity granted to the surface water treatment plant is the sum of the low historic surface water treatment flow from each source, but not greater than the maximum capacity of the treatment plant. The Division has estimated a capacity of 100 gpm for the Jamison surface water treatment plant.

Section 64554(a)(2) requires systems with less than 1,000 service connections to have storage capacity equal to or greater than MDD, unless the system can demonstrate that it has an additional source of supply or has an emergency source connection that can meet the MDD requirement.

Big Basin WC is not able to meet the 10 year MDD of 0.62 MGD (2012) with source capacity alone. Big Basin WC has not reported outages due to low capacity to date. Big Basin WC must begin exploring ways to add additional source capacity. Big Basin WC can meet the 10 year MDD with storage capacity. Source and storage capacity requirements are summarized in the following table:

Summary of Source & Storage Capacity Requirements			
Parameter	**Requirement (MGD)**	**Capacity (MGD)**	**Requirement Met?**
Maximum Day Demand - Sources	0.62	0.247	**No**
Storage Capacity	0.62	0.77	**Yes**

Drinking Water Source Assessment Program (DWSAP)

The Division has a DWSAP on file for Well 4, dated December 2002, but no DWSAPs of Big Basin WC's surface water sources. As part of its watershed sanitary survey, Big Basin WC must also conduct vulnerability assessments of its surface water sources.

Inactive Sources

Big Basin WC has two inactive well sources listed in the Division's database, Galleon Well 1 and Well 02. The Division recommends Big Basin WC schedule to destroy these inactive groundwater sources.

Sources - Overall Evaluation

All sources were inspected during the sanitary survey except the horizontal Well 05. The following deficiencies were identified during the sanitary survey:

- Well 4 Chlorination: Well 4 does not have a 50 foot sanitary seal and continually exerts a chlorine demand on system water that reduces the system chlorine residual. Big Basin WC has been required to install chlorination at Well 4 since the 1994 permit from the Division, but has not yet done so. Big Basin WC must provide a plan for wellhead disinfection to the Division no later than **March 10, 2019** and provide wellhead disinfection no later than **May 20, 2019.**

- Corvin Creek Intake Sedimentation Tank: The intake facility includes a 2,000 gallon steel sedimentation tank in poor condition with signs of extreme corrosion. The sedimentation tank is located on an unstable foundation. Big Basin WC needs to replace the tank and provide a stable foundation.

- Jamison Intake 2 Screen: the area around the intake must be kept clean. A loose screen is used as the intake screen. A secured screen must be installed.

- Jamison Intake 2 Transmission Line: The previous steel transmission line broke and a flexible pipe is being used temporarily. Big Basin WC must install a permanent transmission line using NSF 61 materials.

- Jamison Intake 1 Transmission Line: The intake line includes two intakes on one line. The previous steel transmission line broke and a flexible pipe is being used temporarily. Big Basin WC must install a permanent transmission line using NSF 61 materials.

- Jamison Intake 1 Sedimentation Tank: The intake includes a 2,000 gallon steel sedimentation tank in poor condition with signs of corrosion. Big Basin WC needs to replace the tank and provide a stable foundation.

- Well 05 Pictures: please provide photos of Well 05 to the Division.

TREATMENT FACILITIES

Surface Water Treatment

Big Basin WC owns and operates the Jamison Water Treatment Plant, a contact clarification/filtration surface water treatment plant. A full evaluation of the treatment plant is provided in **Attachment B** of this report.

Due to the many deficiencies found at the treatment plant and associated surface water treatment monitoring deficiencies that have been uncorrected since previous sanitary survey reports, the Division will be issuing an enforcement action to Big Basin WC.

Groundwater Treatment

Big Basin WC does not have any groundwater treatment plants.

DISTRIBUTION SYSTEM

Pressure Zones
The distribution system consists of five pressure zones. According to the water system, there are no areas of the water system with less than 20 psi (minimum distribution pressure per California Code of Regulations, Section 64602).

Distribution Mainlines
Big Basin WC has roughly 20 miles of distribution mainline ranging in size from 2" to 12" in diameter. Big Basin WC mainlines consist of various materials including C900, aged steel, and asbestos cement.

The Division recommends Big Basin WC develop a main replacement plan to replace leaky, aged, undersized (less than 4"), and above ground mainlines as part of a capital improvement plan.

New water main installations shall follow CCR, Title 22, Chapter 16 (Waterworks Standards), Article 4 (Materials and Installation of Water Mains and Appurtenances) and Article 5 (Disinfection Requirements). If Waterworks Standards are unable to be met, please contact the Division prior to commencing construction. According to BIG BASIN WC, the water system does not have any known lead service lines.

Transmission Lines
Big Basin WC has raw water transmission lines which convey raw surface water to the Jamison surface water treatment plant. The transmission lines are in unknown condition. According to Big Basin WC, there are no customer connections off the raw surface water transmission lines.

Distribution System Leak Program
According to the 2017 Annual Report to the Division, Big Basin WC reported one water outage due to a break after meter. Big Basin WC fixes small leaks and contracts for larger repairs.

As a reminder, an unsafe water notice or a boil water notice should be sent to residents losing pressure during any leaks, main breaks, or scheduled mainline replacement. Please contact the Division for review and approval of any unsafe water notification sent to your customers prior to distribution.

Recycled Water
None according to Big Basin WC.

Water Main Separation Criteria
Separation criteria between non-potable lines and new or replacement water mains must follow the requirements established in CCR, Title 22, Section 64572.

Valve Exercising and Maintenance Program
No. of Valves/size: **Unknown**
Valve exercising frequency: **Once every two years**
Have all valves been mapped? **Yes, according to Big Basin WC.**

Evaluation: Big Basin WC exercises most system valves once every two years. Some system isolation valves are in poor condition and unable to be exercised. Aged system isolation valves that Big Basin WC cannot exercise due to their condition should be replaced. All isolation valves deemed critical by Big Basin WC must be in good condition and included in the valve exercising rotation. All valve exercising needs to be recorded and the records need to be stored by Big Basin WC.

According to Big Basin WC, there are some stretches of mainline without an isolation valve for miles. The Division recommends Big Basin WC review all records and install isolation valves in accordance with current Waterworks Standards, which are included below

All new mainline installations shall comply with the following isolation valve requirements (CCR Title 22, Section 64577): at least one isolation valve no farther than 1,320 linear feet apart on all mains having a diameter of 12 inches or less, at each tee or crossing connection between mains that have a diameter of 12 inches or less, within 100 feet of the tee or crossing connection with the primary main, between the water main and each fire hydrant served by the main. All new water main valves shall be constructed in accordance with Title 22, CCR ,Section 64578, specifically, "a valve box shall be installed over each buried valve stem to aid in locating and operating the valve. For valves buried in trenches greater than five feet below the finished grade, either a valve stem riser to permit the use of a normal key or a notation on valve records indicating that a long key will be required shall be provided."

Dead End Flushing Program
No. of dead ends: **~12**
No. Flushed in 2017? **All (no written documentation available)**
Flushing Frequency: **Every six months**

Evaluation: Big Basin WC needs to begin keeping records of system flushing.

Operational Controls
The water system is controlled by float valves and manual operation.

Water System Interconnections
Big Basin WC supplies water to Forest Spring IMA, Bracken Brae, and an adjacent three home community. More details are included in the table below:

Interconnections			
Connecting Water System	**No. Connections**	**Length**	**Comments**
Forest Springs IMA	126	Negligible	1" connection. Sole water source for water system.
Bracken Brae Country Club	24	Negligible	1" line to ¾" meter. Sole water source for water system.

PUMPS AND PUMPING FACILITIES

Booster Station List				
Name	**# Pumps**	**Individual HP**	**GPM**	**Remarks**
Galleon Heights	1	40	425	One pump is out of service.
Rancho Dia	2		35	Did not inspect
Robin Hood	1	5	25	One more pump planned for installation
Oberst	1		60	Did not inspect
China Grade/Camino	1		25	Small wooden building
Tradewinds (at Galleon Heights Tank)	3 (one fire)			Includes two waterlogged pressure tanks.

Pumps and Pumping Facilities – Overall Evaluation:

Booster stations were observed to be in adequate to poor overall condition. The following deficiencies and recommendations were found during the sanitary survey.

- Galleon Heights Booster Station Housing: Holes were observed in the housing and rodent droppings were on the floor and on the pumps and piping. The building needs to be cleaned and the holes in the housing need to be repaired.

- Galleon Heights Booster Station: One of the two booster pumps was down for repairs. The two boosters are aged and show signs of corrosion. Big Basin WC's engineering report completed by REED Corporation, dated November 1993, states: "The Galleon pump station, with two parallel 375 gpm pumps, is greatly oversized for the available system supply. Because of this, operation frequency relies on demand and the pump cannot be turned on unless the filter plant clearwell is fill." Big Basin WC should begin preparing a plan for replacing the booster pumps with adequately sized pumps and upgrading the piping and valving.

- Tradewinds Booster Station: The Tradewinds booster station is the booster station located at the Galleon tank site and feeds the ~15 homes above the Galleon tank. The booster station includes two vertical pressure tanks that are waterlogged and need to be removed or replaced. Big Basin WC should evaluate the aged and corroded piping and valving associated with this booster station and prepare an upgrade plan. The booster station includes a power generator that does not work and needs to be fixed. Since this booster station is the sole source of water for the ~15 homes, the generator should be working in the event of a power outage.

FINISHED WATER STORAGE

Big Basin WC has 10 storage tanks, which are described in the table below:

Storage Tank List

Tank Name	Inspected?	Material	Capacity (MG)	Comments
Jamison Tank	Yes	Bolted Steel	0.210	Surface water treatment plant contact time tank
Well Tank	Yes	Bolted Steel	0.084	
Galleon Heights Tank	Yes	Welded Steel	0.325	
Robin Hood (Bolted Steel)	Yes	Bolted Steel	0.042	
Robin Hood Horizontal Tank	Yes, but did not inspect roof features	Welded Steel	0.010	Tank must be removed from service.
China Grade	Yes, but did not inspect roof features	Polyethylene	0.005	Replaced in 2018
Oberst Tank	Yes	Welded Steel	0.005	
Bloom Grade Tank	Yes, but did not inspect roof features	Bolted Steel	0.022	
Hill House Tank	Yes, but did not inspect roof features	Polyethylene	0.010	
Rancho Dia	Yes	Redwood	0.060	Serious deficiencies noted. Tank must be rehabilitated or replaced.
TOTAL STORAGE CAPACITY			**0.774**	

Storage Tanks – Overall Evaluation:

The Division identified the following storage tank deficiencies and recommendations that require attention:

1. Galleon Tank
    a. The roof center vent is corroded and should be replaced.

    b. The roof access hatch does not include a seal. A seal or gasket must be provided to prevent the entry of insects into the tank. The Division recommends the roof access hatch is retrofitted with a sealing shoebox type hatch.

    c. The overflow line terminates about two inches above the ground surface right next to the tank as shown in the following picture. If the tank overflows, the water could destabilize the side of the tank. The Division recommends the overflow is diverted away from the tank and protected against animals with a screen or flapper valve.

2. Robin Hood Tank (Bolted Steel):
    a. The cement foundation is in poor condition. A section of the dirt under the foundation washed away. The Division recommends a registered civil engineer with experience in tank foundations evaluate the current condition of the foundation and identify necessary improvements.

    b. The tank does not have a drain. A drain must be installed during the next major tank rehabilitation or cleaning.

    c. The center roof vent does not have a fine mesh screen. A corrosion resistant fine mesh screen designed to prevent the entry of insects must be installed.

    d. The roof access hatch does not have a seal. Please install a seal or gasket to prevent the entry of insects.

3. Robin Hood Horizontal Tank:
    a. The tank is a system equalization tank that stores about 10,000 gallons of water. The tank was not constructed according to drinking water standards and is poor condition. The Division did not inspect the interior of the tank due to safety concerns and limited access. The tank exterior is corroded, tree branches have fallen on the tank, the tank does not include an adequate access hatch, and debris was observed around the tank. The cylindrical steel tank is installed horizontally on a wood foundation without any supports. The foundation is not adequate and is a safety risk for the water system and surrounding area. Big Basin WC must remove this tank from service no later than **March 20, 2019**. If a temporary tank will be installed, please present a plan to the Division by **February 20, 2019**.

4. Hill House Tank
    a. Plants have grown around the site and need to be cut back around the tank perimeter.

    b. The polyethylene tank does not have a foundation. As the budget allows, a more permanent foundation with seismic restraints should be installed.

    c. The tank does not have a fence. The Division recommends the site is fenced.

    d. The tank is located near a home with its own well and tank. Big Basin WC must ensure there are no cross connections and if the home is a customer of Big Basin WC, the home owner has an approved reduced pressure assembly at their meter.

    e. The tank does not have a ladder, so the Division did not inspect the tank. Please provide photos of the roof vent and vent screen, roof access hatch locked and opened, and photos of the tank interior.

5. China Grade Tank
    a. The tank was installed in 2018 to replace the adjacent leaking redwood tank. Big Basin WC must ensure there are no connections to the previously used redwood tank.

    b. The site is not fenced. The Division recommends a locking fence is installed around the tank.

    c. The roof lid does not have a lock. The lid needs to be retrofitted with a lock.

6. Rancho Dia Tank
    a. The tank is a significant hazard due to the leaks, redwood condition, debris observed inside the tank, and many openings and breaks in the perimeter vent screen. According to Division records, the tank was constructed in 1958 and is past its useful life. Big Basin WC must provide a plan and schedule for major rehabilitation or replacement of this tank.

    b. Due to the poor condition of the tank, Big Basin WC must do the following until the tank is taken out of service:

        - Inspect the tank at least monthly using the Division approved tank inspection form (**Attachment C**). Please send the completed form back to the Division monthly by the 10th.
        - Collect monthly total coliform samples from the tank and direct your lab to send the reports directly to the Division.
        - With each coliform sample, a paired chlorine residual must be taken and reported on the chain of custody.
        - Provide at least a 0.2 mg/L chlorine residual leaving the tank. The chlorine residual must be monitored weekly and the results must be reported to the Division monthly.

    c. The roof vent screen spans the entirety of the top perimeter of the tank. Several section so the vent screen had holes, were detached, and/or brittle. A new corrosion resistant fine mesh vent screen sized to prevent the entry of insects must be installed.

    d. The redwood tank has several leaks that need to be plugged. The redwood around the inlet flange is rotting and needs to be addressed.

e. The site around the tank needs to be cleaned and trees need to be cutback to avoid tree overhang.

f. Debris including an old soda can was observed inside the tank on the tank floor. The tank is overdue for a draining and cleaning. Big Basin WC must drain and clean the tank. Due to the poor structural condition of the tank, Big Basin WC must take the necessary precautions to avoid redwood drying.

7. Oberst Tank
   a. The Oberst Tank is an aged small steel tank. The interior and exterior coatings are severely corroded. Large rust nodules were observed attached to the interior tank wall. The corrosion presents a sanitary and structural risk. Big Basin WC must provide a plan and schedule for replacement of this tank.

   b. The side vent has a screen that is not secured. The vent screen must be secured.

   c. The tank does not have a foundation. When the tank is replaced, an adequate foundation must be constructed.

8. Bloom Grade Tank
   a. The ownership status of the tank is unclear. The tank is located next to two houses. A property owner has constructed a fence around one side of the tank as part of their outdoor enclosure. Big Basin WC must clear the ownership and easement status of the tank and require the homeowner to remove the fence constructed around half of the tank. The Division strongly recommends Big Basin WC then construct their own fence around the tank.

   b. A small polyethylene tank is located adjacent to the tank by the property owner. Big Basin WC must verify there are no connections from the tank or distribution system directly to the tank without appropriate backflow protection.

   c. The tank needs a dedicated drain.

   d. The tank needs a sample tap on the outlet line.

   e. Due to the lack of a fence, Big Basin WC must secure the valves to prevent tampering.

   f. The tank does not have a ladder, which limits Big Basin WC and the Division's ability to inspect the roof features. Big Basin WC must install a ladder with appropriate safety and security features including a locked door and a safety cage.

Tank Inspection Program
How often are tanks inspected? **Monthly, according to Big Basin WC.**
Roof Inspections? **Periodically**
Inspections recorded? **No**
Frequency of dive inspections? **Unknown**

Evaluation: Big Basin WC is not adequately inspecting storage tanks given the condition of most of the tanks. Big Basin WC must begin to inspect all tanks at least quarterly and inspect the Rancho Dia Tank monthly. Tank inspections must include a site walk-around, evaluation of all tank appurtenances, valving, sample tap, overflow, roof access hatch, vent screen(s), interior coating, interior water quality, visual inspection of the tank walls and floor, and chlorine residual sampling.

Big Basin WC must provide the Division with a quarterly summary of tank inspections using the forms included in **Attachment C** of this report.

MONITORING, REPORTING, AND DATA VERIFICATION

Bacteriological Source and Distribution Monitoring

Population: **1680**
Service Connections: **601**
Distribution Samples: **Two per month rotated among six sample sites**
Source Samples: **Quarterly (groundwater), Monthly by enumeration (surface water)**
Bacteriological Sample Siting Plan Date: **February 2011**
Groundwater Rule Plan: **Well 4 sampled after distribution total coliform positive**
Total Coliform Rule Violations in past three years? **No**

Source Chemical Monitoring

The Big Basin WC's source monitoring detections and an evaluation of each required source chemical monitoring group is tabulated below:

Source Chemical Monitoring Requirements, Detections, and Evaluation		
Chemical or Chemical Set	**Detections above DLR – Most recent sample (excluding treated sources)**	**Evaluation**
Inorganic Chemicals	None above half the MCL	In compliance
Nitrate (as Nitrogen)	All less than half the MCL	In compliance
Nitrite	All less than half the MCL	In compliance
Synthetic Organic Compounds(SOC)	None above the DLR	Non-waived SOCs: 2,4 D, Atrazine, Diquat, Simazine, 1,2,3-TCP
Initial 1,2,3 TCP Monitoring	None above the DLR	Initial monitoring completed
Volatile Organic Compounds(VOC)	None above the DLR	In compliance
Gross Alpha	None above 3 pCi/L	In compliance
Radium 226 & 228	None above 1 pCi/L	In compliance
Secondary MCLs	Nothing significant	In compliance

The last monitoring dates for Big Basin WC's sources is tabulated below:

Last Source Chemical Monitoring Dates								
Source	**Secondary MCLs**	**In-organics**	**Nitrate (as N)**	**Nitrite**	**Gross Alpha**	**Rad 226+228**	**VOC**	**Non-Waived SOCs**
Raw Surface Water								
Corvin Creek	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17
Jamison Springs	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17
Well 05 (Horizontal)	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17
Groundwater								
Well 04	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17	Dec-17

Next Due Chemical Monitoring Dates								
Source	**Secondary MCLs**	**In-organics**	**Nitrate (as N)**	**Nitrite**	**Gross Alpha**	**Rad 226+228**	**VOC**	**Non-Waived SOCs**
Raw Surface Water								
Corvin Creek	**2018**	**2018**	**2018**	2020	2026	2026	2020	2020
Jamison Springs	**2018**	**2018**	**2018**	2020	2026	2026	2020	2020
Well 05 (Horizontal)	**2018**	**2018**	**2018**	2020	2026	2026	2020	2020
Groundwater								
Well 04	2020	2020	**2018**	2020	2026	2026	2023	2020

*Minimum Monitoring Frequencies (in months)**								
Source	**Secondary MCLs**	**In-organics**	**Nitrate (as N)**	**Nitrite**	**Gross Alpha**	**Rad 226+228**	**VOC**	**Non-Waived SOCs**
Raw Surface Water								
Corvin Creek	12	12	12	36	108	108	36	36
Jamison Springs	12	12	12	36	108	108	36	36
Well 05 (Horizontal)	12	12	12	36	108	108	36	36
Groundwater								
Well 04	36	36	12	36	108	108	72	36

Evaluation: Big Basin MWC must EDT the following overdue 2018 source monitoring by **January 31, 2019**:

- Secondary MCLs and Inorganic Chemicals for Corvin Creek, Jamison Springs, and Well 05
- Nitrate for Corvin Creek, Jamison Springs, Well 05, and Well 04

Unregulated Source Contaminants

None above established notification levels.

Disinfection By-Product Rule (DBPR) Monitoring

BIG BASIN WC is required to monitor at one approved TTHM distribution sample location and one HAA5 distribution system sample location quarterly in accordance with the monitoring plan. Big Basin WC's approved DBPR Sample sites are shown below:

DBPR Sample Sites	
PS Code	**Location**
4410001-801	210 Compass Court (TTHM Sample site)
4410001-802	Unit #2 Common (HAA5 Sample site)

Samples submitted to Division via electronic submittal: **All samples are in the Division's electronic database. DBPR monitoring results are tabulated below.**

DBPR Monitoring Summary (ug/L)					
Date	**11/29/2017**	**2/13/2018**	**6/5/2018**	**9/11/2018**	**LRAA**
210 Compass Court (TTHM Site)	15	50	21	8.3	23.58
Unit #2 Common (HAA5 Site)	32	16	20	15	20.75

LRAA = locational running annual average

Evaluation**:** Big Basin WC has conducted required quarterly DBPR monitoring and reported all results to the Division via Electronic Data Transfer.

Chlorine Residual Distribution System Monitoring

Big Basin WC has submitted required quarterly chlorine residual distribution monitoring results to the Division quarterly. Big Basin WC has not exceeded the chlorine Maximum Residual Disinfectant Level (MRDL) of 4.0 mg/L. Big Basin WC has not always provided a detectable chlorine residual at all times, as required by the Surface Water Treatment Rule (California Code of Regulations, Title 22, Section 64654). Distribution system chlorine residual results from 2018 are summarized in the table below.

As a surface water system, a detectable residual must be measured in at least 95 percent of the distribution system samples or sample results showing the presence of heterotrophic plate count (HPC) at concentrations less than or equal to 500 colony forming units per milliliter must be provided. Due to the wide array of field sampling errors, Big Basin WC should target a distribution system free chlorine residual of at least 0.2 mg/L to ensure a detectable residual. Failure to provide a detectable chlorine residual or provide HPC sample results showing alternative compliance will result in an enforcement action.

The Division did not receive a chlorine residual for the October 9, 2018 distribution system bacteriological sample, which is required by regulation. Please send the Division the chlorine residual measurement.

Distribution System Chlorine Residual Results (January 2018 to Present)		
Date	**Location**	**Chlorine Residual**
11/13/2018	210 Compass Ct	0.58 mg/L
11/6/2018	333 Camino Verde	1.27 mg/L
10/23/2018	1040 Chaparral	0.13 mg/L
10/9/2018	Unit 2 Common	**Chlorine Residual Not Reported**
9/25/2018	800 Memory Lane	0.2 mg/L
9/11/2018	210 Compass Ct	**0.05 mg/L**
8/28/2018	575 Branson Ranch Rd.	0.91 mg/L
8/14/2018	333 Camino Verde	0.45 mg/L
7/17/2018	1040 Chaparral	0.23 mg/L
7/2/2018	Unit #2 Common	0.61 mg/L
6/19/2018	800 Memory Lane	0.34 mg/L
6/5/2018	210 Compass Ct	**0.03 mg/L**
5/22/2018	575 Branson Ranch Rd.	0.57 mg/L
5/8/2018	333 Camino Verde	0.58 mg/L
4/24/2018	1040 Chaparral	0.47 mg/L
4/11/2018	Unit #2 Common	1.04 mg/L
3/27/2018	800 Memory Lane	0.48 mg/L
3/20/2018	575 Branson Ranch Rd.	0.99 mg/L
2/13/2018	210 Compass Ct	0.31 mg/L
2/6/2018	333 Camino Verde	0.66 mg/L
1/16/2018	1040 Chaparral	1.14 mg/L
1/3/2018	Unit #2 Common	1.01 mg/L

Lead and Copper Rule Monitoring
Required Frequency: **Once every three years**
Number of Sample Sites Required: **10**
Next Round of Monitoring Due: **Between June 1 and September 30, 2020.**

Evaluation: Big Basin WC is in compliance with LCR monitoring. The water system is required to collect lead and copper tap sampling at a minimum of 10 sites in accordance with Table 647675-A of the California Code of Regulations. Recent 90th percentile lead and copper monitoring results have been less than the established action levels. Lead and copper monitoring results since 1995 are summarized in the following table.

Lead and Copper Rule Monitoring Results (1995 - Present)					
Date	**No. of Samples Required**	**No. of Samples**	**90th Percentile Lead (mg/L)**	**90th Percentile Copper (mg/L)**	**Comments**
Sep-17	10	10	0	0.11	One sample location was 0.22 mg/L for lead, but was resampled and non-detect.
Oct-14	10	10	0	0.083	
Oct-11	10	10	0	0.067	
Sep-08	10	10	0	0.12	
Sep-07	20	20	0.005	0.710	
Sep-05	10	10	0	0.190	
Jun-04	10	10	0	0.076	
Oct-00	10	10	0	0.08	
Feb-97	20	20	0	0.12	
Nov-95	20	20	0	0.12	

Lead Sampling In Schools
Is the water system familiar with the requirements of the lead sampling in schools permit and regulation? **Yes**
How many requests has the water system received? **According to Big Basin WC, the water system does not serve any schools.**

Monitoring Data Record Retention
Are chemical/bacteriological laboratory data retained? **Yes** Are operational records retained: **Yes**
Duration of retention**: 10+ Years** Method of Storage**: Digital + Hard Copy**
Is all source and disinfection by-product rule data reported to the Division via EDT? **Yes**

Evaluation: Big Basin WC data retention program is adequate.

Lead Service Line Inventory
Is LSL Inventory completed and certification form received? **Yes**
Did water system report any lead or unknown material service lines? **No**

Evaluation: In compliance.

Reporting to the Division
Date of last Annual Report to the Division: **May 29, 2018**
Date of last Consumer Confidence Report: **2017 CCR certification has not been received**

Evaluation: Big Basin WC must send the Division a copy of its 2017 CCR and proof of distribution.

SYSTEM MANAGEMENT AND OPERATION

Cross-Connection Control and Backflow Testing Program
Name of Cross-connection control coordinator(s): **Jim Moore**
Does the utility have a current Cross-Connection Control Ordinance or Operating Rules? **No**
Number of Backflow Preventers**: Unknown**
Wastewater Treatment Plants? **Yes**

Summary of Backflow Testing (2015 – 2017)					
Year	**Total Number**	**No. Installed**	**No. Tested**	**No. Failed**	**No. Replaced/Repaired**
2017	10	0	0	0	0
2016	8	0	1	0	0
2015	8	0	1	0	0
2014	10	No information reported in EAR			
2013	EAR not submitted				
2012	10	No information reported in EAR			
2011	10	No information reported in EAR			
2010	10	No information reported in EAR			
2009	10	0	1	0	0
2008	10	0	1	0	0

Evaluation: Big Basin WC does not have a cross connection control program. Based on previous electronic annual reports sent to the Division and summarized in the table above, Big Basin WC has not overseen a cross connection control program that includes annual testing of all backflow assemblies.

Big Basin WC does not have a list of known backflow assemblies in the system. The lack of a cross connection control program and lack of backflow testing records is a significant sanitary hazard and violation of Title 17 of the California Code of Regulations. The Division will be sending an enforcement action to Big Basin WC for failure to comply Title 17 of the California Code of Regulations.

Big Basin WC must do the following:

- Send the Division 2018 backflow testing records for all backflow assemblies in the service area by **February 10, 2019**. Failure to send backflow testing records will result in enforcement from the Division.

- Provide a copy of its current cross connection control operating rules. If a cross connection control program operating rules do not exist, create a cross connection control program operating rules and present the document to the California Public Utilities Commission for review and approval.

- Identify all backflow prevention assemblies in the system and provide a list to the Division. The list must include the address, type of backflow prevention (name, make, model). The list must be sent to the Division no later than **February 10, 2019**.

- Conduct a systemwide cross connection control survey that includes surveying all non-residential connections, customers with known private wells, and residential connections in the country club area or any other area where non potable water is used for irrigation. A written summary of the survey including a list of connections requiring backflow prevention must be sent to the Division no later than October 10, 2019.

- If the wastewater treatment plant includes a connection to the Big Basin WC, a RP or air gap must be installed.
- The remainder of system connections must be surveyed no later than June 20, 2020.

The Division strongly recommends Big Basin WC contract with a certified cross connection control specialist to complete a cross connection survey and to assist with creating the cross connection control program.

Customer Complaint Program
Are all complaints recorded? **Yes**
Digital/Hard Copy Tracking? **Hard Copy**
Does the water system respond to all complaints? **Yes, according to Big Basin WC.**

Summary of Customer Complaints (2015 – 2017)							
Year	**Taste/Odor**	**Color**	**Turbidity**	**High/Low Pressure**	**Outages**	**Other**	**Total**
2017	0	0	0	1	0	0	1
2016	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0

Evaluation: All customer complaints are recorded and responded to by Big Basin WC. Big Basin WC maintains a customer complaint log.

Auxiliary Power Supply
Auxiliary Power for: Water Sources? **No** Pumping Stations? **Some** Water Treatment Plants? **No**
How frequently is backup power tested? **Unknown**
Backup power automatic or manual start: **Unknown**
Can system pressure be maintained either by backup power or by storage during power outages of two hours or less? **Yes**

Evaluation: The Division recommends Big Basin WC add auxiliary power at the Jamison WTP and fix the generator at the Galleon Heights site, which supplies a pressure zone directly without any gravity storage.

Water System Mapping
Does the utility have up-to-date distribution system maps? **No**

System Security
Overall site security is marginal. Several tank sites do not have fencing. Jamison WTP is not gated or fenced. The Division strongly recommends all well and tank sites are fenced and provided with a locked gate.

Emergency Response Program
Date of most recent Emergency Notification Plan (ENP): **February 9, 2018**
Date of Emergency Response Plan: **None on File**
Emergency Response Training or Table Top Exercises: **None**

Evaluation: The Division recommends Big Basin WC complete an updated Emergency Response Plan.

WATER SYSTEM MANAGEMENT

Management Structure
Who owns the water system? **Big Basin Water Co., owned by Jim and Shirley Moore**
Water System Type**: Private**

Current organizational chart on file? **No** Manager: **Jim Moore**

Water System Financial Outlook
Are adequate reserve funds available to support maintenance and staffing requirements? **Unknown**
Is there a Capital Improvement Plan (CIP)? **None on file with the Division**

Evaluation: The Division has not reviewed Big Basin WC's financial statements, but according to Big Basin WC, water system upgrades cannot be completed due to financial restrictions. Big Basin WC must provide a plan to complete the deficiencies outlined in this sanitary survey even with the reported financial restrictions.

OPERATOR CERTIFICATION

Per CCR, Title 22, Section 64413.3, water systems are assigned their distribution classification based upon population size and other distribution system related factors. Big Basin WC is classified as a Distribution 3 (D3) water system.

Distribution System Classification Summary		
Classification	**Chief/Shift Requirement**	**Population / Points**
D3	D3 / D2	1680 / 25 Points

Big Basin WC's treatment plant classifications for their treatment plant is summarized below:

Treatment Plant Classification Summary		
Classification	**Chief/Shift Requirement**	**Treatment Plant(s)**
T2	T2 / T1	Jamison Surface Water Treatment Plant

Copies of completed distribution system and treatment plant classification worksheets is located in **Attachment D** of this report. CCR Title 22 Section 64413.5 - 7 states (a) each water supplier shall designate at least one chief operator that meets the requirements for each treatment and/or distribution system utilized by the water system; (b) Each water supplier shall designate at least one shift operator that meets the requirements for each treatment and/or distribution system each operating shift; (c) The chief operator or shift operator shall be on-site or able to be contacted within one hour.

According to Big Basin WC's 2017 electronic annual report, Big Basin WC has two certified operators, which are summarized in the following table:

Chief/Shift Operators		
Name	**Distribution Cert / Expiration Date**	**Treatment Cert / Expiration Date**
Thomas Moore	D2, exp. Dec 2018	T3, exp. Oct 2020
Damian Moore	D3, exp. Jan 2022	T2, exp. Jan 2022

Staffing Evaluation
According to Big Basin WC, the water system is not adequately staffed. The Division recommends Big Basin WC add additional certified operators to ensure coverage at the treatment plant and to complete preventative maintenance (valve exercise, dead end flushing, tank inspections, etc.). The Division recommends Big Basin WC add an additional treatment operator to ensure a certified chief operator is available at all times.

The Division recommends Big Basin WC contract with a certified cross connection control specialist to administer the cross connection control survey and program until Big Basin WC has additional staffing.

ATTACHMENTS

A. Deficiency List, Recommendations, and Reminders
B. 2018 Surface Water Treatment Plant Evaluation – Jamison WTP
C. Tank Inspection Form
D. Treatment and Distribution Classification Worksheets

Report prepared by:

Jonathan Weininger, P.E.
Sanitary Engineer, Monterey District

Date: January 10, 2019

Attachment A

Deficiency List, Recommendations, and Reminders

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER
ATTACHMENT A: 2018 SANITARY SURVEY DEFICIENCY LIST & RECOMMENDATIONS

Purveyor: **Big Basin Water Company (4410001)**
Inspection Date: **September 12 and October 17, 2018**

Updated by: _____

Date: _____

ORDER OF HAZARD:
A. CRITICAL HEALTH HAZARD - CORRECTIVE ACTION MUST BE TAKEN IMMEDIATELY
B. SERIOUS HEALTH HAZARD - ACTION MUST BE TAKEN AS SOON AS POSSIBLE
C. POTENTIAL HEALTH HAZARD - MUST BE CORRECTED AS WORK LOAD PERMITS
D. SYSTEM OR OPERATIONAL DEFECT RESULTING IN POOR WATERWORKS PRACTICE

2018 SANITARY SURVEY – DEFICIENCY LIST

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
	SOURCES			
Oct 2018	***Well 4 Chlorination***: Well 4 does not have a 50-foot sanitary seal and continually exerts a chlorine demand on system water that reduces the system chlorine residual. Big Basin WC has been required to install chlorination at Well 4 since the 1994 permit from the Division but has not yet done so. Big Basin WC must provide a plan for wellhead disinfection to the Division no later than March 10, 2019 and provide wellhead disinfection no later than May 20, 2019.	A	Plan by Division no later than March 10, 2019 and provide wellhead disinfection no later than May 20, 2019.	
Oct 2018	***Corvin Creek Intake Sedimentation Tank***: The intake facility includes a 2,000 gallon steel sedimentation tank in poor condition with signs of extreme corrosion. The sedimentation tank is located on an unstable foundation. Big Basin WC needs to replace the tank and provide a stable foundation.	C	Replace tank and provide foundation by July 10, 2020	
Oct 2018	***Jamison Intake 1 Sedimentation Tank***: The intake includes a 2,000 gallon steel sedimentation tank in poor condition with signs of corrosion. Big Basin WC needs to replace the tank and provide a stable foundation.	C	Replace tank by July 10, 2020	
Oct 2018	***Jamison Intake 2 Screen***: the area around the intake must be kept clean. A loose screen is used as the screen and intake does not have a secured screen. A secured screen must be installed.	C	March 10, 2019	
Oct 2018	***Jamison Intake 2 Transmission Line***: The previous steel transmission line broke and a flexible pipe is used temporarily. Big Basin WC must install a permanent transmission line using NSF 61 materials.	C	March 10, 2019	
Oct 2018	***Jamison Intake 1 Transmission Line***: The intake line includes two intakes on one line. The previous steel transmission line broke and a flexible pipe is used temporarily. Big Basin WC must install a permanent transmission line using NSF 61 materials.	C	March 10, 2019	

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
Oct 2018	***Jamison Reservoir as a Surface Water Source*:** Big Basin WC has stated that it has used Jamison Reservoir as a raw a water source a few times over the past 10 years. Big Basin WC is not permitted to use the Jamison Reservoir, a 3 MG artificial reservoir primarily fed by overflow from surface water sources, as a surface water source. The reservoir is not a permitted raw surface water source and cannot be used as a surface water source.	N/A	Now	
October 2016, January 5, 2018 and October 2018	***Jamison Reservoir Cross Connection with the Distribution System:*** The Jamison surface water reservoir must be physically disconnected from the distribution system. Due to the nature of the cross connection (separated only by a closed isolation valve), Big Basin WC must develop a well-researched plan that reduces the risk of potable water contamination with raw surface water.	A	Plan with anticipated schedule by March 10, 2018. Work completed no later than June 10, 2019	
	BOOSTER STATIONS			
Oct 2018	***Galleon Heights Booster Station Housing***: Holes were observed in the housing and rodent droppings were on the floor and on the pumps and piping. The building needs to be cleaned and the holes in the housing need to be repaired.	C	September 10, 2019	
Oct 2018	***Galleon Heights Booster Pump Plan***: One of the two booster pumps was down for repairs. The two boosters are aged and show signs of corrosion. Big Basin WC's engineering report completed by REED Corporation, dated November 1993, states: "The Galleon pump station, with two parallel 375 gpm pumps, is greatly oversized for the available system supply. Because of this, operation frequency relies on demand and the pump cannot be turned on unless the filter plant clearwell is fill." Big Basin WC should begin preparing a plan for replacing the booster pumps with adequately sized pumps and upgrading the piping and valving.	D	Plan by September 10, 2019	
Oct 2018	***Tradewinds Booster Station Waterlogged Pressure Tanks***: The booster station includes two vertical pressure tanks that are waterlogged and need to be removed or replaced.	C	Remove or replace by December 31, 2019	
Oct 2018	***Tradewinds Booster Station Piping and Valving Corrosion:*** Big Basin WC should evaluate the aged and corroded piping and valving associated with this booster station and prepare an upgrade plan.	D	December 31, 2019	
Oct 2018	***Tradewinds Booster Station Generator:*** The booster station includes a power generator that does not work and needs to be fixed. Since this booster station is the sole source of water for the ~15 homes, the generator should be working in the event of a power outage.	C	March 10, 2019	
	STORAGE			
Oct 2018	***Galleon Tank Vent Screen*:** The center roof vent screen is corroded and needs to be replaced. A corrosion resistant fine mesh (designed to prevent the entry of insects) vent screen must be installed.	C	March 10, 2019	
Oct 2018	***Galleon Tank Roof Access Hatch:*** The roof access hatch does not include a seal. A seal or gasket must be provided to prevent the entry of insects into the tank. The Division	D	March 10, 2019	

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
	recommends the roof access hatch is retrofitted with a sealing shoebox type hatch.			
July 2018	***Galleon Tank Overflow:*** The overflow line terminates about two inches above the ground surface right next to the tank as shown in the following picture. If the tank overflows, the water could destabilize the side of the tank. The Division recommends the overflow is diverted away from the tank and protected against animals with a screen or flapper valve.	D	March 10, 2019	
Oct 2018	***Robin Hood Bolted Steel Tank Roof Hatch Seal:*** The roof access hatch does not have a seal. Please install a seal or gasket to prevent the entry of insects.	D	March 10, 2019	
Oct 2018	***Robin Hood Bolted Steel Tank Vent Screen:*** The center roof vent does not have a fine mesh screen. A corrosion resistant fine mesh screen designed to prevent the entry of insects must be installed.	D	March 10, 2019	
Oct 2018	***Robin Hood Bolted Steel Tank Drain:*** The tank does not have a drain. A drain must be installed during the next major tank rehabilitation or cleaning.	C	During next rehabilitation or cleaning	
Oct 2016, Jan 2018, Oct 2018	***Robin Hood Bolted Steel Tank Removal/Replacement***: The tank is a system equalization tank that stores about 10,000 gallons of water. The tank was not constructed according to drinking water standards and is poor condition. The Division did not inspect the interior of the tank due to safety concerns and limited access. The tank exterior is corroded, tree branches have fallen on the tank, the tank does not include an adequate access hatch, and debris was observed around the tank. The cylindrical steel tank is installed horizontally on a wood foundation without any supports. The foundation is not adequate and is a safety risk for the water system and surrounding area. Big Basin WC must remove this tank from service no later than **March 20, 2019**. If a temporary tank will be installed, please submit a plan to the Division by **February 20, 2019**.	A	Big Basin WC must remove this tank from service no later than **March 20, 2019**. If a temporary tank will be installed, please present a plan to the Division by **February 20, 2019.**	
Oct 2018	***Hill House Tank Site***: Plants have grown around the site and need to be cut back around the tank perimeter.	N/A	May 10, 2019	
Oct 2018	***Hill House Tank Cross Connection Verification***: The tank is located adjacent to a home with its own well and tank. Big Basin WC must ensure there are no cross connections and the if the home is a customer of Big Basin WC, the home owner has an approved reduce pressure assembly at their meter.	D	Written verification by April 10, 2019	
Oct 2018	***China Grade Tank Connection Verification***: The tank was installed in 2018 to replace the adjacent leaking redwood tank. Big Basin WC must ensure there are no connections to the previously used redwood tank.	D	Written verification by April 10, 2019	
Oct 2018	***China Grade Tank Roof Lid Lock***: The roof lid does not have a lock. The lid needs to be retrofitted with a lock.	D	March 10, 2019	
2010, Oct 2018	***Rancho Dia Tank Rehabilitation/Replacement Plan:*** The redwood tank is a significant hazard due to the leaks, redwood condition, debris observed inside the tank, and many openings and breaks in the perimeter vent screen. According to Division records, the tank was constructed in 1958 and is past its useful life. Tank	A	Rehabilitation/ Replacement Plan by **May 10, 2019**	

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
	rehabilitation/replacement must be done in accordance with NSF 61, Waterworks Standards, and AWWA standards.			
Oct 2018	***Rancho Dia Tank Interim Operation Requirements***: Due to the poor condition of the tank, Big Basin WC must do the following until the tank is taken out of service: • Inspect the tank at least monthly using the Division approved tank inspection form (Attachment B). Please send the completed form back to the Division monthly by the 10th. • Collect monthly total coliform samples from the tank and direct your lab to send the reports directly to the Division. • With each coliform sample, a paired chlorine residual must be taken and reported on the chain of custody. • Provide at least a 0.2 mg/L chlorine residual leaving the tank collected at least weekly. The results must be reported to the Division monthly.	N/A	Immediately	
2010, 2013, 2016, Oct 2018	***Rancho Dia Tank Vent Screen***: The roof vent screen spans the entirety of the top perimeter of the tank. Several section so the vent screen had holes, were detached, and/or brittle. A new corrosion resistant fine mesh vent screen sized to prevent the entry of insects must be installed no later than **February 10, 2019**. This deficiency has been requested in the previous three sanitary survey reports and remains unaddressed.	A	February 10, 2019	
Oct 2018	***Rancho Dia Tank Site:*** The site around the tank needs to be cleaned and trees need to be cutback to avoid tree overhang.	D	May 10, 2019	
Oct 2018	***Rancho Dia Tank Leaks:*** The redwood tank has several leaks that need to be plugged. The redwood around the inlet flange is rotting and needs to be addressed.	C	March 10, 2019	
Oct 2018	***Rancho Dia Tank Cleaning***: Debris including an old soda can was observed inside the tank on the tank floor. The tank is overdue for a draining and cleaning. Big Basin WC must drain and clean the tank no later than **June 10, 2019**. Due to the poor structural condition of the tank, Big Basin WC must take the necessary precautions to avoid redwood drying.	B	June 10, 2019	
Oct 2018	***Oberst Tank Replacement Plan***: The Oberst Tank is an aged small steel tank. The interior and exterior coatings are severely corroded. Large rust nodules were observed attached to the interior tank wall. The corrosion presents a sanitary and structural risk. Big Basin WC must provide a plan and schedule for replacement of this tank no later than ***May 10, 2019***. The replacement plan must include NSF 61, AWWA, and Waterworks Standards compliance and a plan to construct a tank foundation and provide proper seismic supports.	A	May 10, 2019	
Oct 2018	***Oberst Tank Roof Vent Screen***: The side vent has a screen that is not secured. The vent screen must be secured.	D	January 30, 2019	

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
Oct 2018	***Bloom Grade Tank Ownership Status and Fence Removal***: The ownership status of the tank is unclear. The tank is located next to two houses. A property owner has constructed a fence around one side of the tank as part of their outdoor enclosure. Big Basin WC must clear the ownership and easement status of the tank and require the homeowner to remove the fence constructed around half of the tank. The Division strongly recommends Big Basin WC then construct their own fence around the tank.	B	Written verification of ownership status by April 10, 2019	
Oct 2018	***Bloom Grade Tank Cross Connection Verification***: A small polyethylene tank is located adjacent to the tank by the property owner. Big Basin WC must verify there are no connections from the tank or distribution system directly to the tank without appropriate backflow protection.	C	Written verification by April 10, 2019	
Oct 2018	***Bloom Grade Tank Drain***: The tank does not have a drain. Big Basin WC must install a drain in accordance with Waterworks Standards.	C	September 10, 2019	
Oct 2018	***Bloom Grade Tank Sample Tap:*** In accordance with Waterworks Standards, the tank needs a sample tap on the outlet line. The sample tap must be downturned and non-threaded.	D	May 10, 2019	
Oct 2018	***Storage Tank Inspections:*** Based on the condition of the storage tanks, Big Basin WC is not adequately inspecting storage tanks. Big Basin WC must begin to inspect all tanks at least quarterly and inspect the Rancho Dia Tank monthly. Tank inspections must include a site walk-around, evaluation of all tank appurtenances, valving, sample tap, overflow, roof access hatch, vent screen(s), interior coating, interior water quality, visual inspection of the tank walls and floor, and chlorine residual sampling. Big Basin WC must provide a summary of tank inspections quarterly using the form included in **Attachment C** of this report.	C	Now	
SURFACE WATER TREATMENT				
Jan 2018, Oct 2018	***Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement***: The filtration units are in poor overall condition and must be evaluated by a Westech representative or consulting engineer with experience in surface water treatment to determine necessary upgrades including, but not limited to, media replacement, scour components, clarification media and screening, valve and piping condition, filter vessel coatings, cross connection potential, and overall efficiency.	A	Plan and schedule by April 10, 2019. Work completed by February 10, 2020	
Oct 2016, Jan 2018, Oct 2018	***Updated Surface Water Treatment Plant Operations Plan:*** In accordance with CCR, Title 22, Section 64661, Big Basin WC shall update its surface water treatment plant operations plan. At a minimum, the plan shall include the following elements: • A description of the utility's treatment plant performance monitoring program • Unit process equipment maintenance program • Filter media inspection program • Operating personnel, including numbers of staff, certification levels and responsibilities;	B	Updated Ops Plan by June 10, 2019	

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
	• How and when each unit process is operated; • Laboratory procedures; • Procedures used to determine chemical dose rates including alum dosing and chlorine contact time calculations • Records • Response to plant and watershed emergencies; • Reliability features. • Alarm and shutdown setpoints • Overview of all monitoring equipment, calibration standards, etc. • Inventory of all flow meters • Operations plan for the package treatment plant • Backflow protection and cross connection control overview • Backwash process • Filter to waste process • NSF 60 and 61 compliance			
Oct 2018	***Jamison WTP Filter Unit Clarification Media Screen:*** The filter unit nearest the entrance door is a break in the clarification media screen, which has allowed the buoyant clarification media to enter the filter cell. The loss of clarification media will affect treatment plant performance. The screen must be replaced with a new screen, and the lost clarification media must be replaced.	A	March 10, 2019	
Oct 2016, Jan 2018, Oct 2018	***Chlorine Residual Grab Sampling and Reporting***: The water system collects one disinfectant residual grab sample per day at the first service connection. For the system with a population between 1,001 and 2,500, the Title 22, CCR, Section 64656(f) requires that three (3) disinfectant residual grab samples shall be collected each day in lieu of the continuous monitoring, in order to determine compliance with disinfection treatment performance standards. Big Basin must collect three chlorine residual samples per day at roughly evenly spaced intervals and report all results to the Division. The water system shall submit the monthly worksheet for contact time compliance for Giardia Lamblia Cysts by free chlorine every month.	N/A	Now	
Jan 2018, Oct 2018	***Online Chlorine Residual Analyzer***: The previous deadline of June 10, 2018 to install a chlorine analyzer with alarms and shutdown capabilities has passed. A new continuous chlorine residual analyzer using an approved EPA method using must be installed.	A	Installed by March 10, 2019	
Oct 2018	***Jamison WTP Building:*** The treatment plant building is a wood building in poor overall condition. The plant was overrun with rodents, so the Big Basin WC keeps cats in the treatment plant building. Big Basin WC must repair building deficiencies including eliminating potential entrance points for domestic animals and rodents. Big Basin WC should begin planning to replace the treatment plant building to address the rodent problem.	B	Plan by September 10, 2019	

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
Jan 2018, Oct 2018	***Jamison WTP Cats:*** Big Basin WC must find an alternative means of controlling rodents that does not include cats in the treatment plant building. The cats present a contamination risk to the water supply. Rat poison should not be applied or stored in the treatment plant building.	B	Plan by February 20, 2019	
Jan 2018, Oct 2018	***Jamison WTP Cleaning***: The treatment plant building has not been cleaned or maintained. Big Basin WC must implement a preventative maintenance program at the surface water treatment plant that includes cleaning the treatment plant building. The laboratory and chemical storage areas must be thoroughly cleaned. Water quality results obtained from a dirty laboratory are not considered valid. All sampling equipment should be cleaned.	A	February 10, 2019 and continuously thereafter	
Oct 2018	***Filter Effluent Line Cross Connection Evaluation***: Big Basin WC must evaluate the cross-connection risk present between the filtered water line and the backwash line. If a cross connection is present, appropriate backflow protection must be installed.	D	Evaluation by July 10, 2019	
Oct 2018	***Jamison WTP Chemical Storage Tank Water Line***: The Chemical Storage Tanks (chlorine and alum) have a treated water line (for dilution) plumbed directly into storage tank. A proper air gap must be provided between the treated water fill line and the chemical tanks.	C	May 10, 2019	
Oct 2018	***Jamison WTP Chemical Storage Tanks and Storage***: Chemical Storage Tanks have large holes in their lids and are corroded. Furthermore, the secondary containment is partially full of ponding liquid, which poses an unknown risk. Big Basin WC needs to install new alum and chlorine storage tanks and store the tanks separately. Chlorine and Alum are of different chemical storage groups and as a safety precaution should not be stored together. One of the chemical storage tanks in the chemical storage building is double contained, but both chemical storage tanks are stored together in the same containment facility and next to each other. The chemicals should be further separated and not stored in the same double containment box. The EPA published a memo on incompatible chemical groups and safety, which is published online at: https://www.epa.gov/sites/production/files/2016-12/documents/incompatible_chem_storage.pdf	B	May 10, 2019	
	Jamison WTP Turbidimeter: Parts of the existing turbidimeter were replaced with parts from another turbidimeter. Due to the overall condition and age of the turbidimeter, Big Basin WC must budget to replace the turbidimeter with a new EPA method certified turbidimeter no later than November 10, 2019. A manufacturer representative must evaluate the current turbidimeter for accuracy. Big Basin WC must continue to perform calibrations according to the manufacturer's recommendations. Until a manufacturer representative has	B	New turbidimeter installed by November 10, 2019	

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
	evaluated the turbidimeter, Big Basin WC must have its laboratory analyze filtered water turbidity samples at least once every two weeks and report the result to the Division along with the turbidimeter turbidity reading.			
Oct 2018	***Settled Water Turbidity*:** Big Basin WC must begin collecting daily settled water turbidity (grab sample from the clarifier) measurements and reporting the results to the Division within the monthly surface water treatment plant report. Big Basin WC should target a settled water turbidity of no more than 2.0 NTU.	N/A	Now	
Oct 2018	***Backwash Tank Cross Connection(s)***: Original drawings show the 15,000 gallon backwash water storage tank had a direct cross connection between the tank and the Jamison Reservoir. Big Basin WC must verify there are no cross connections between the tank and the reservoir or any other non-potable source.	C	April 10, 2019	
Oct 2018	***pH Monitoring***: Big Basin WC must use an EPA approved method for pH monitoring as part of daily pH monitoring.	C	April 10, 2019	
Oct 2018	***Daily pH and Temperature Monitoring***: Big Basin WC has assumed a max pH of 8.0 and minimum temperature of 10 to 12 Celsius for monthly reporting, which has not been verified in years. Big Basin WC must begin to report the daily pH and temperature value from the water leaving the treated water contact time. After one year of daily pH and temperature monitoring, Big Basin WC can request to use worst case assumptions.	C	Immediately	
Oct 2018	***Distribution System Chlorine Residual:*** As a surface water system, a detectable residual must be measured in at least 95 percent of the distribution system samples or sample results showing the presence of heterotrophic plate count (HPC) at concentrations less than or equal to 500 colony forming units per milliliter must be provided. Big Basin WC has not always achieved a 0.2 mg/L free chlorine residual. Due to the wide array of field sampling errors, Big Basin WC should target a distribution system free chlorine residual of 0.2 mg/L as a detectable residual. Failure to provide a detectable chlorine residual or provide HPC sample results showing alternative compliance, the Division will issue an enforcement action.	A	Immediately	
Oct 2018	***October 9, 2018 Chlorine Residual***: The Division did not receive a chlorine residual for the October 9, 2018 distribution system bacteriological sample (Unit 2 Common), which is required by regulation. Please send the Division the chlorine residual measurement with the response to the sanitary survey report.	N/A	February 15, 2019	
Oct 2018	***Clarifier and Filter Loading Rates:*** Please begin reporting clarifier and filter loading rates (in gpm/ft^2) for each filter unit. Big Basin WC must demonstrate compliance with the maximum clarifier loading rate of 10 gpm/ft^2 and the maximum filter loading rate of 5 gpm/ ft^2.	N/A	With February 2019 monthly surface water treatment plant report	

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
	CROSS CONNECTION CONTROL PROGRAM			
Jan 2018, Oct 2018	***Cross Connection Control Operating Rules***: Big Basin WC must provide a copy of its current cross connection control operating rules. If a cross connection control program operating rules do not exist, create a cross connection control program operating rules and present the document to the California Public Utilities Commission for review and approval. At a minimum, the cross-connection control operating rules must include incorporating Title 17 of the California Code of Regulations.	A	CPUC approved Operating Rules by June 10, 2019	
Jan 2018, Oct 2018	***Cross Connection Control Survey***: Big Basin WC must conduct a systemwide cross connection control survey that includes surveying all non-residential connections, customers with known private wells, and residential connections in the country club area or any other area where non-potable water is used for irrigation. The survey should also include evaluating cross connections along Big Basin WC's raw water transmission lines and surface water treatment plant. A written summary of the survey including a list of connections requiring backflow prevention must be sent to the Division no later than October 10, 2019. If the wastewater treatment plants include a connection to the Big Basin WC, a RP or air gap must be installed. The remainder of system connections must be surveyed no later than June 20, 2020.	A	Survey summary by October 10, 2019	
Jan 2018, Oct 2018	***Backflow Prevention Assembly Inventory***: Identify all backflow prevention assemblies in the system and provide a list to the Division. The list must include the address, type of backflow prevention (name, make, model). The list must be sent to the Division no later than **February 10, 2019**.	A	Send inventory by June 10, 2019	
	OTHER			
Oct 2018	***2017 Consumer Confidence Report Certification:*** The Division never received a copy of Big Basin WC's 2017 CCR and CCR certification. Please send the Division a copy of the 2017 CCR and proof of distribution certification.	C	February 15, 2019	
Oct 2018	***Watershed Sanitary Survey:*** Big Basin WC must conduct a watershed sanitary survey in accordance with California Code of Regulations, Title 22, Section 64665 and provide a report to the Division by December 31, 2019. The survey and report must include the following items: a physical and hydrogeological description of the watershed, a summary of source water quality monitoring data, a description of activities and sources of contamination, a description of any significant changes that have occurred since the last survey which could affect the quality of the source water, a description of watershed control and management practices, an evaluation of the system's ability to meet requirements of this chapter, and recommendations for corrective actions.	C	December 31, 2019	

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
Oct 2018	***Source Capacity:*** Big Basin WC is unable to meet source capacity requirements according to the method outlined in California Code of Regulations, Title 22, Section 64554. Big Basin WC must begin exploring options for increasing source capacity.	B	Progress report by December 31, 2019	
Oct 2018	***Records***: Big Basin WC must begin storing records for all preventative maintenance programs including system flushing, valve exercising, and full tank inspections.	D	Now	
	SOURCE MONITORING			
January 2019	***Overdue 2018 Source Monitoring***: Big Basin MWC must EDT the following overdue 2018 source monitoring to the Division by **January 31, 2019**: • Secondary MCLs and Inorganic Chemicals for Corvin Creek, Jamison Springs, and Well 05 • Nitrate for Corvin Creek, Jamison Springs, Well 05, and Well 04	C	EDT by January 31, 2019	

2018 SANITARY SURVEY – LIST OF RECOMMENDATIONS

Description of Recommendation	Recommended Date to Address Recommendation
Photos – Please provide the Division with the following photos to complete the sanitary survey evaluation: • Well 05 and transmission line • Tank roof features including roof vents, roof vent screens, locked and closed access hatch, open access hatch, interior water quality, interior coating, and roof exterior paint for the following tanks: o China Grade o Bloom Grade o Hill House	February 20, 2018 (not a recommendation)
Robin Hood Tank Foundation: The cement foundation is in poor condition. A section of the dirt under the foundation washed away. The Division recommends a registered civil engineer with experience in tank foundations evaluate the current condition of the foundation and identify necessary improvements.	As budget allows
Hill House Tank Foundation: The polyethylene tank does not have a foundation. As the budget allows, a more permanent foundation with seismic restraints should be installed.	As budget allows
Hill House Tank Fence: The tank site is not fenced. The Division recommends the site is fenced.	As budget allows
China Grade Tank Fence: The tank site is not fenced. The Division recommends the site is fenced.	As budget allows
Bloom Grade Tank Fence: The tank site is not fenced. The Division recommends the site is fenced.	As budget allows
Jamison WTP IFE Turbidimeter: The Division recommends Big Basin WC install a new turbidimeter on each individual filter effluent (IFE) line.	As budget allows
***Jamison WTP Backup Turbidimeter*:** The Division recommends Big Basin WC have a backup turbidimeter.	As budget allows
***Jamison WTP Generator*:** The Division recommends Big Basin WC have an onsite generator at the treatment plant.	As budget allows
Jamison WTP Site Security: The treatment plant location does not include a gate or fence. The Division recommends a gate is installed at the front of the plant and recommends the site is fenced.	As budget allows
Inactive Sources: Big Basin WC has two inactive well sources listed in the Division's database, Galleon Well 1 and Well 02. The Division recommends Big Basin WC schedule to destroy these inactive groundwater sources	As budget allows
Isolation Valves: According to Big Basin WC, there are some stretches of mainline without an isolation valve for miles. The Division recommends Big Basin WC review all records and install isolation valves in accordance with current Waterworks Standards, which are included in Title 22 of the California Code of Regulations.	As budget allows
Operator Staffing: According to Big Basin WC, the water system is not adequately staffed. The Division recommends Big Basin WC add additional certified operators to ensure coverage at the treatment plant and to complete preventative maintenance (valve exercise, dead end flushing), etc. The Division recommends Big Basin WC add an additional T3 operator to ensure there is always a certified chief operator nearby.	As budget allows
Emergency Response Plan: The Division recommends Big Basin WC create an updated Emergency Response Plan. Templates and references are available online at:	2019

Description of Recommendation	Recommended Date to Address Recommendation
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Security.html	
Cross Connection Specialist: The Division strongly recommends Big Basin WC contract with a certified cross connection control specialist to complete the cross-connection survey and to assist with creating the cross connection control program.	Now

Attachment B

Surface Water Treatment Plant Evaluation

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER
2018 SURFACE WATER TREATMENT PLANT EVALUATION
ATTACHMENT B

Purveyor/System No: **Big Basin Water Company**
Name of Water Treatment Plant: **Jamison Surface Water Treatment Plant (SWTP)**
Inspection Date: **October 17, 2018**
Treatment Plant Classification: **T2**
Chief Operator(s): **Jim Moore**
Hours of Operation: **As needed, 365 days a year. Big Basin WC must have an operator on site each day of operation due to chlorine grab sampling requirements and lack of reliability features.**
Requirement: Operation without frequent interruptions (Title 22 CCR, Section 64658(b)(13))

Sources of Information:

1) Files, discussion, and monthly reporting
2) State Water Resources Control Board - Electronic Water Rights Information Management System
http://ciwqs.waterboards.ca.gov/ciwqs/ewrims/EWServlet?Redirect_Page=EWWaterRightPublicSearch.jsp&Purpose=getEWAppSearchPage
3) State Water Resources Control Board, June 2018, *California Surface Water Treatment Rule Alternative Filtration Technology Summary*
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/dwdocuments/2018/aft_contact_sum_tables.pdf

A. SOURCE OF SUPPLY

Table 1: Raw Water Evaluation		
Raw water Sources:	**Corvin Creek (4410001-001). Roughly 50 gpm.**	
	Jamison Springs - Two intakes (4410001-009). Roughly 30 gpm combined flow.	
	Well 05 Horizontal Well (4410001-010). Roughly 13-35 gpm.	
Raw Water Transmission Line(s):	**Corvin Creek: 1940s era steel pipe. The transmission lines from the surface intakes and Well 05 are reportedly above ground PVC to the Jamison WTP, but the Division has not inspected the full length of the transmission lines.**	
Range of recent treatment plant flow?	**<75 gpm to 100 gpm**	
Date of last watershed sanitary survey:	**2006**	
Does the watershed sanitary survey report adequately address the following:		
Physical and hydrogeological description of the watershed		**Yes**
A summary of source water quality monitoring data		**Yes**
A description of activities and sources of contamination		**Yes**
A description of any significant changes that have occurred since the last survey which could affect the quality of the source water		**Yes**
A description of watershed control and management practices:		**Yes**
An evaluation of the system's ability to meet surface water treatment regulations:		**Yes**
Recommendations for corrective actions: **None. The watershed is owned by Big Basin WC and most vulnerable to contamination from nearby septic tank leach fields, although there are none directly on the watershed.**		
Water Rights: **Yes, Big Basin WC has appropriative rights licensed by the State Water Resources**		

Table 1: Raw Water Evaluation	
Control Board Division of Water Rights. Big Basin WC is allowed 0.37 cfs (166 gpm) of direct diversion. Big Basin WC is allowed 4.6 AFY of storage for a total of 231 AFY of beneficial use of the four streams tributary to Jamison Creek.	
Raw bacteriological monitoring frequency: *Surface water treatment plant raw water supply is to be monitored for total coliform and either fecal coliform or E.coli bacteria using density analysis no less than once per month. (CCR 64654.8 (b(1)).*	**Big Basin WC is required to collect raw surface water total coliform and E. coli sampling at least monthly and report the results to the Division by the 10th day of the following month.** **Sample results are summarized in Table 2.**
Cryptosporidium monitoring for Long Term Enhanced Surface Water Treatment Rule (LT2):	**Big Basin WC completed the second round of LT2 monitoring and is classified as a Bin 1 water system, which means no additional filtration credit is required based on E. coli results.**
Discussion and Appraisal: **Big Basin WC must complete a watershed sanitary survey and provide a summary to the Division by December 31, 2019. The watershed sanitary survey must then be updated every five years and sent to the Division.** **Big Basin WC has stated that it has used Jamison Reservoir as a raw a water source a few times over the past 10 years. Big Basin WC is not permitted to use the Jamison Reservoir, a 3 MG artificial reservoir primarily fed by overflow from surface water sources, as a surface water source. The reservoir is not a permitted raw surface water source and cannot be used as a surface water source, without approval by the Division through issuance of a water system permit amendment.**	

Table 2: Raw Water Bacteriological Summary – Individual Sources
(Reported as Average Monthly Value in MPN/100 mL)

Month	Well 5		Jamison Springs		Corvin Creek	
	Total Coliform	E. Coli	Total Coliform	E. Coli	Total Coliform	E. Coli
Oct-18	4.1	<1.0	131.4	6.3	63.8	9.8
Sep-18	0.5	<1.0	129.6	50.3	196	86.6
Aug-18	49.2	<1.0	436.5	7.5	308	23.2
Jul-18	<1.0	<1.0	363.2	3.5	384	7.5
Jun-18	<1.0	<1.0	130.4	4.9	87	7.1
May-18	<1.0	<1.0	43	1	29	3.1
Apr-18	<1.0	<1.0	133	2.6	26.9	1
Mar-18	<1.0	<1.0	185.6	18.5	64.3	11
Feb-18	<1.0	<1.0	99	40	66	4.1
Jan-18	0.7	<1.0	69.5	0	70.3	13.4
Dec-17	<1.0	<1.0	111.2	3.1	42	6.9
Nov-17	1.5	<1.0	783.9	39.6	959.4	188.2

B. TREATMENT TECHNOLOGY

Table 3: Treatment Plant Characteristics	
Type of Treatment:	**Trident Microfloc upflow contact clarification /filtration system. First stage – upflow clarification. Second stage: mixed media filtration with anthracite coal, silica sand, and high density sand.**
Approved Technology?	**Yes, the Trident Microfloc contact clarification filtration system is listed in the Division's approved alternative technologies listing.**
Year Constructed:	**1993**

Table 3: Treatment Plant Characteristics	
Filtration Removal Credit: *Requirement: 3.0 log Giardia and 4.0 log Virus removal through both filtration and disinfection.*	**2.5 log Giardia, 2.0 log Virus, and 2.0 log cryptosporidium removal with a maximum clarifier loading rate of 10 gpm/ft^2 and maximum filter loading rate of 5 gpm/ ft^2 , Big Basin WC must comply with these loading rates by measuring flow from each filter unit and calculating loading rates. Big Basin WC must notify the Division if the clarifier and/or filter loading rate is exceeded.**
Pre-filtration	**None**
Number of filtration units (*Multiple filter units are required.(Section 64659(a)(4))*	**2**
How is filtration rate controlled?	**Automatic**
Filtration rate at maximum flow	**75 gpm for each unit**
Is there filter-to-waste capability? *Required for new treatment plants by Section 64658(b)(8)*	**Yes**
Is the filter backwash water recycled?	**No – all backwash water is sent to a backwash pond and not recycled.**
Treatment Plant Chemicals	
Disinfectant?	**HASA Chlor, an NSF 60 certified 12.5% sodium hypochlorite. The chlorine is diluted with system water at different dilutions depending on the season. The operations plan must include a description of the dilution ratio.**
Supply of disinfectant on hand?	**30 gallons, which lasts about two weeks.**
Emergency plan of action for disinfection failure:	**2006**
Coagulant:	**Dry Aluminum Sulfate, Chemtrade Solutions. NSF 60 certified.** **Aluminum Sulfate NSF 60 Certification Notes: Max dose = 400 mg/L. The aluminum level in the finished drinking water must not exceed 2 mg/L.**
Coagulant Dosage Calculations:	**According to Big Basin WC's Jamison WTP operations plan, dated 1993, the alum dose is calculated at 4 mg/L. The operations plan states that the dose is adjusted based on the turbidimeter, however, the treatment plant turbidimeter is no longer connected to the dosing pump, so the operations plan needs to be updated. Big Basin WC needs to begin performing jar testing to determine optimal coagulant dosages.**
Chemical Storage Evaluation: **Chemical Storage Tanks have large holes in their lids and are corroded. Furthermore, the secondary containment is partially full of ponding liquid, which poses an unknown risk. Big Basin WC needs to install new alum and chlorine storage tanks.** **Chlorine and Alum are of different chemical storage groups and as a safety precaution should not be stored together. One of the chemical storage tanks in the chemical storage building is double contained, but both chemical storage tanks are stored together in the same containment facility and next to each other. The chemicals should be further separated and not stored in the same double containment box. The EPA published a memo on incompatible chemical groups and safety, which is published online at:** **https://www.epa.gov/sites/production/files/2016-12/documents/incompatible_chem_storage.pdf** **The Chemical Storage Tanks (chlorine and alum) have a treated water line (for dilution) plumbed directly into storage tank. A proper air gap must be provided between the treated water fill line and the chemical tanks.**	

C. PERFORMANCE STANDARDS

Table 4: Filtration and Disinfection Performance	
Filter effluent turbidity requirements: **1. The filtered water turbidity must be equal to or less than 0.2 NTU in 95% of measurements taken each month.** **2. The filtered water turbidity must never exceed 2.0 NTU at any time.** **3. If using turbidity grab sampling, the filtered water must not exceed 1.0 NTU in more than two samples taken consecutively while the plant is in operation.** **4. When any individual filter is placed back in service the filtered water turbidity of the effluent from that filter must not exceed: 5.0 NTU, 1.0 NTU in at least 90% of the interruption events during any consecutive 12-month period, and 0.2 NTU after the filter has been in operation for four hours.**	
Maximum combined filter effluent turbidity level during the past 12 months	**0.18 (December 2017 and November 2018)**
Number of times turbidity exceeded 0.1 NTU in combined filter effluent for more than four hours during the past 12 months	**December 2017, January, March, April July, October, and November 2018**
Maximum individual filter effluent turbidity level during the past 12 months	**Individual filter effluent turbidity is not measured.**
Maximum turbidities when placing filters on line after backwash or other interruption	**Unknown**
Minimum residual in the water delivered to the distribution system during the past 12 months (*The effluent residual cannot be less than 0.2 mg/l for more than four hours in any 24 hour period (Section 64654(b)(1)))*	**0.4 mg/L (March 2018)**
Discussion and Appraisal: **Big Basin WC must begin collecting daily settled water turbidity (grab sample from the clarifier) measurements and reporting the results to the Division within the monthly surface water treatment plant report. Big Basin WC should target a settled water turbidity of no more than 2.0 NTU.**	

The table below summarizes the past 12 months of filtration effectiveness:

Table 5: Raw and Treated Water Turbidity Summary			
Month	**Monthly Average Peak Raw Water Turbidity (NTU)**	**95th Percentile Treated Water Turbidity (NTU)**	**Average Turbidity Reduction**
Nov-18	0.8	0.106	91.4 %
Oct-18	0.7	0.1	88.1 %
Sep-18	0.6	0.08	87.9 %
Aug-18	0.5	0.08	87.5 %
Jul-18	0.5	0.06	90.8 %
Jun-18	0.5	0.04	91.9 %
May-18	0.5	0.06	89.8 %
Apr-18	0.5	0.06	91 %
Mar-18	0.6	0.11	87.6 %
Feb-18	0.5	0.06	91 %
Jan-18	0.5	0.055	89 %
Dec-17	0.5	0.08	88.6 %

Requirement: The percent reduction of monthly average raw water turbidities must be greater than 80% OR jar tests or pilot testing may be used to show that optimum removal is being achieved (Section 64660(b)(9)) OR the monthly average effluent turbidity must be less than 0.1 NTU (Requirement for low turbidity raw water)

D. DESIGN AND OPERATIONS STANDARDS

Table 6: Operations and Maintenance	
Describe filter maintenance:	**Media is inspected daily by operators.**
Describe media change out:	**According to Big Basin WC, the media was replaced about 10 years ago, but the Division does not have media replacement records.**
Describe backwash cycle:	**Backwash is initiated by pressure loss. Each filter unit typically backwashes between daily and every three to four days.**
Backwash Water:	**A 15,000 gallon steel storage tank stores system water for backwashing the filter units.** **Original drawings show this tank was the contact time tank and show a direct cross connection between the tank and the Jamison Reservoir. Big Basin WC must verify this cross connection does not exist.**
Recycled Backwash:	**No, all backwash water is sent to an adjacent sediment pond**
Filter Cleaning Procedure:	**Filters have not been cleaned for at least 10 years.**
Disinfection By Product Precursor Removal:	**No dedicated treatment, but overall values of TTHMs and HAA5s are below their respective MCLs in the distribution system.**
Discussion and Appraisal: **The clarification media was observed in the filter bed, indicating a damaged media retention screen. Big Basin WC must replace or repair the screen and add replacement clarification media. Both filter units need to be taken offline for a full evaluation of the clarification media, filter media, filter bed and coating condition, and evaluation of valves and piping. The filter units need a complete rehabilitation or replacement.**	

E. RELIABILITY AND MONITORING

Table 7: Summary of Treatment Plant Equipment	
Turbidity Monitoring Equipment	**A single HACH 1720E is used for turbidity compliance on the combined filter effluent line. The turbidimeter as installed in 2006. The viewer, a HACH sc100, was swapped with one from Forest Springs IMA in November 2018.**
Chlorine Residual Monitoring	**Big Basin WC is required to collect at least three daily chlorine residual grab samples at the treated water line sample tap, which is located about 460' downstream of the contact time tank outside of the chemical injection shed. Big Basin WC uses a handheld HACH Pocket Colorimeter using free chlorine DPD packets for chlorine residual monitoring. Until a chlorine analyzer is purchased and installed, Big Basin WC must continue to collect three chlorine residual grab samples every day. Big Basin WC must also properly maintain and verify its colorimeter and ensure all DPD packets are not expired.** **Big Basin WC is required to purchase and install a chlorine residual analyzer due to past violations of grab sampling requirements. The Division requested an approved chlorine residual analyzer to be installed by April 30, 2018, but Big Basin WC has not purchased and installed an analyzer to date.**
Temperature and pH Monitoring:	**Temperature is monitored using an analog thermometer in a bucket of treated water. pH is monitoring using pH test strips. Big Basin WC must use a pH probe or other EPA approved pH testing method.** **Big Basin WC has assumed a max pH of 8.0 and minimum temperature of 10 to 12 Celsius for monthly reporting, which has not been verified on a regular basis as worst case conditions.**

Table 7: Summary of Treatment Plant Equipment	
	Big Basin WC must begin to report a daily pH and temperature value from the water leaving the treated water contact time. After one year of daily pH and temperature monitoring, Big Basin WC can request to use worst case assumptions.
Flow Measurement:	**The Division does not have a list of flow meters at the Jamison WTP.**
Standby equipment available?	**Big Basin WC has an extra diaphragm pumps available for chemical injection capabilities. Big Basin WC should have an extra turbidimeter available.** *Required by Section 64659(a)(2) Standby replacement equipment available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection*
Standby Power:	**None. The Division recommends Big Basin WC have an onsite generator at the treatment plant.**
Site Security:	**The treatment plant is located inside a locked wood building. The chemical storage and dosing room is located inside a locked building at the entrance to the treatment plant property. The treatment plant location does not include a gate or fence. The Division recommends a gate is installed at the front of the plant and recommends the site is fenced.** **Several cats are in the treatment building to control rodents. Big Basin WC must find an alternative means of controlling rodents that does not include cats in the treatment plant building. The cats present a contamination risk to the water supply. Rat poison also cannot not be applied or stored in the treatment plant building.**
Discussion and Appraisal: **Big Basin WC needs to provide an inventory of all raw and treated water flow meters. The Division recommends Big Basin WC install an additional turbidimeter so there are turbidimeters on each filter unit. A backup turbidimeter should be available. Big Basin WC is overdue in purchasing and installing a chlorine residual analyzer. Big Basin WC must begin sending the Division all three daily chlorine residual results including the date and time taken with the monthly surface water treatment plant report.**	

Table 8: Monitoring Equipment Characteristics					
Parameter	**Location**	**Continuous Monitoring**	**Recording**	**Alarm/ Shutdown**	**Comments**
Flow	Influent	**No**	**No**	**No**	
	Individual Filter Effluent	**No**	**No**	**No**	
	Combined Filter Effluent	**No**	**No**	**No**	
Turbidity	Raw	**No**	**Grab**	**No**	
	Individual Filter Effluent	**No**	**No**	**No**	
	Combined Filter Effluent	**Yes**	**Chart Recorder**	**Unknown**	
Chlorine Residual	Leaving Filters	**No**	**Grab**	**No**	
	Leaving Clearwell	**No**	**Grab**	**No**	
Temperature	Leaving Clearwell	**No**			
pH	Leaving Clearwell	**No**			
Discussion and Appraisal: **Big Basin WC must provide a list of current turbidimeter alarms/shutdowns. Big Basin WC does not have online capabilities or real time alarms/shutdowns, so the plant must always be staffed by a certified operator. If a chlorine failure occurs in during the night, the failure will not be caught until the morning. Therefore, Big Basin WC should not operate the plant without an operator onsite.**					

F. OPERATIONS AND RECORDS

Table 9: Operations	
Number and level of certified operators:	**Two, Jim Moore is the chief operator with a T3 certification and Damian Moore is the shift operator with a T2 certification.**
Date of Operations Plan:	**November 1993 and revised in March 2006, but not approved.**
Has the plan been approved by the Division?	**Revised 2006 Operations Plan has not been approved by the Division.**
Describe any changes needed to the plan	**The operations plan needs to be updated to address various changes in the water system and treatment plant since 1993 including monitoring equipment, grab sampling, alarms, alum and chlorine dosing, etc.**
Describe the treatment records maintained:	**Big Basin WC stores treatment plant records.**
Does the water system consistently send monthly treatment plant reports	**Yes**
Does the monthly treatment report include all required information?	**Yes**
Discussion and Appraisal:	**Big Basin WC must update its operations plan.**

G. CONTACT TIME EVALUATION

Source of Information: **The CT Tables used are found in Appendix E in the EPA *Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources*, 1990.**

*Table 10: Required Log Removal for Alternative Technology – Trident Microfloc**			
	Giardia	Virus	Cryptosporidium
Required Total Log Reduction	3.0	4.0	2.0
Reduction Log Credit for Trident Microfloc*	2.5	2.0	2.0
Required Log Reduction with Disinfection	**0.5**	**2.0**	**0.0**

* As determined by Division evaluation and listed in alternative technology listing at http://www.SWRCB-DDW.ca.gov/certlic/drinkingwater/Pages/Publications.aspx

TREATMENT PLANT FLOWPATH

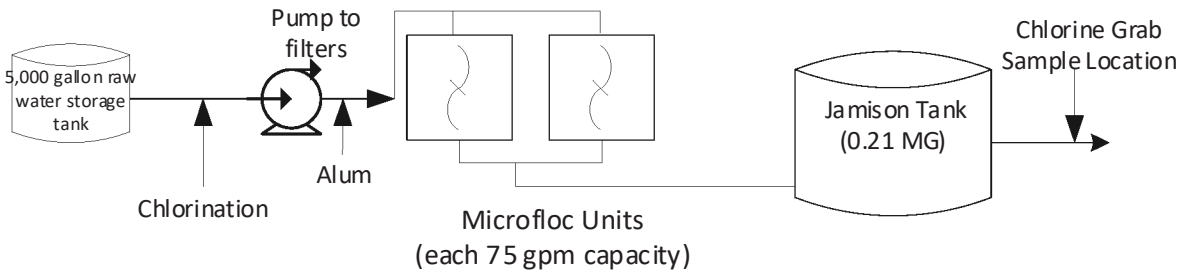

Table 11: Calculations	
Jamison Tank	
The Jamison Tank is located at the Jamison WTP and provides chlorine contact time. The tank has a capacity of 210,000 gallons.	
Height of Walls	24’
Diameter of Clearwell	38.6’
Minimum Water Level	Use 11’ based on past surface water treatment plant reports. Big Basin WC must provide its low tank level alarm.
Minimum volume of clearwell	Assume
T_{10}/T (baffling factor)	0.1 (default baffling factor)
Available Volume	9628.5 gal
Pipe between chlorine injection and treatment	
Length	400 feet
Diameter	4”
T_{10}/T (baffling factor)	1.0 (default baffling factor for pipes)
Volume	261 gal
Pipe between Jamison Tank and Chlorine grab sample location	
Length	400 feet
Diameter	6”
T_{10}/T (baffling factor)	1.0 (default baffling factor for pipes)
Volume	587 feet
Total Pipeline Volume	261 + 587 = 848 gal
Contact Time Calculation	
Total Volume:	848 gal (pipelines) + 9628.5 gal (tank) = 10476.5 gal
Peak Flow Rate:	300 gpm (capacity of Galleon boosters, which draw water from the Jamison WTP)
Residence Time:	10476.5 gal / 300 gpm = 34.92 min
Contact Time Achieved	34.92 min * 1.0 (typical chlorine residual) = 34.92 min-mg/L
Required Log Removal	
pH (highest)	8 (not verified)
Water Temperature (lowest)	10 deg C (not verified)
Cl_2 Residual (lowest)	0.4 mg/L (based on past 12 months of reporting)
Required Contact Time ($CT_{Required}$) at Worst Case Operating Conditions Required CT for **0.5 log** reduction of *Giardia* and **2.0 log** reduction of virus	
$CT_{Required}$ (Giardia)	27 min-mg/L
$CT_{Required}$ (Virus)	3.0 min-mg/L
Disinfection Contact Time Evaluation: At the 12 month chlorine residual low of 0.4 mg/L, CT cannot be met. Big Basin WC must keep at least a 1.0 free chlorine residual measured at the current sample location. Big Basin WC must update the temperature and pH value with results obtained at the chlorine residual grab sample location. The currently reported temperature and pH values are worst case assumptions but have not been verified in years. Big Basin WC must use an EPA approved method for monitoring pH.	

Note: The worst case scenario for purposes of this evaluation is a situation where plant conditions that are unfavorable (low temperature, high pH, low chlorine residual) for inactivation are used.

H. OVERALL PLANT APPRAISAL

The treatment plant is in poor overall condition. Big Basin WC must address the deficiencies outlined in the sanitary survey and summarized in the deficiency list. The breakthrough of clarification media and filtration media are concerns that must be addressed. The filter evaluation conducted by the Division in 2004 resulted in concerns about media loss and media mixing, underdrain plugging, air scouring, and backwashing issues. A treatment plant evaluation must be conducted by a Westech representative of other equally knowledgeable professional engineer with experience in surface water treatment.

Due to the reliability limitations and lack of a chlorine analyzer, Big Basin WC is required to visit the treatment plant every day of operation.

Big Basin WC shuts down the plant during storms or other raw water turbidity spikes, so the plant's ability to treat higher turbidity water is questionable.

Big Basin WC must begin sampling pH and temperature daily and reporting the results to the Division within the monthly reports. Big Basin WC must report all chlorine residual grab samples reported for compliance with disinfection requirements within the monthly treatment plant report. Big Basin WC needs to purchase and install an online chlorine residual analyzer.

Big Basin WC must address site security and site cleanliness issues. The rodent problem must be mitigated without the use of poison or onsite cats.

Big Basin WC must send the Division an updated operations plan and updated Watershed Sanitary Survey.

Tank Inspection Form

Tank Inspection Forms Emailed on January 10, 2019

Attachment D

Treatment and Distribution Classification Worksheets

TREATMENT PLANT AND OPERATOR CLASSIFICATION

System Name: Big Basin WC
System No.: 4410001
Reviewing Engineer: Jonathan Weininger
Date: 12/27/2017
Facility Name: Jamison WTP

Section 64413.1. Water Treatment Facilities Classification
Table 64413.1-A

Total Points	Class
Less than 20	T1
20 through 39	T2
40 through 59	T3
60 through 79	T4
80 or more	T5

Total Points: **36**
Treatment Facility Class: **T2**
Minimum Chief Operator Grade: **T2**
Minimum Shift Operator Grade: **T1**

1) Type of source water used by the facility	**Points**	**Value**	**Calculation**
Groundwater and/or purchased treated water meeting primary and secondary drinking water standards, as defined in section 116275 of the Health and Safety Code	2	0	0
Water that includes any surface water or groundwater under the direct influence of surface water	5	1	5
2) Median Coliform Density Most Probable Number Index (MPN)	**Points**	**Value**	**Calculation**
less than 1 per 100 mL	0	0	0
1 through 100 per 100 mL	2	0	0
greater than 100 through 1,000 per 100 mL	4	1	4
greater than 1,000 through 10,000 per 100 mL	6	0	0
greater than 10,000 per 100 mL	8	0	0
3) Maximum Influent Turbidity Level Nephelometric Turbidity Units (NTU)	**Points**	**Value**	**Calculation**
Less than 15	0	1	0
15 through 100	2	0	0
Greater than 100	5	0	0
4) Nitrate, Nitrite, and Perchlorate Data Average	**Points**	**Value**	**Calculation**
Less than or equal to the maximum contaminant level (MCL), as	0	0	0
Greater than the MCL	5	0	0
5) Contaminant Data Average	**Points**	**Value**	**Calculation**
Less than or equal to the MCL	0	0	0
for each contaminant greater than the MCL	2	0	0
for each contaminant 5 times the MCL or greater	5	0	0
6) Surface Water Filtration Treatment	**Points**	**Value**	**Calculation**
Conventional, direct, or inline	15	1	15
Diatomaceous earth	12	0	0
Slow sand, membrane, cartridge, or bag filter	8	0	0
Backwash recycled as part of process	5	0	0
7) Other Treatment Process for Primary MCL Reduction	**Points**	**Value**	**Calculation**
each treatment process utilitized not included in No. 6 used to reduce the concentration of one or more contaminants with a primary MCL (including blending)	10	0	0
8) Other Treatment Process for Secondary MCL Reduction	**Points**	**Value**	**Calculation**
each treatment process utilitized not included in No. 6 or No. 7 used to reduce the concentration of one or more contaminants with a secondary MCL (including blending)	3	0	0

TREATMENT PLANT AND OPERATOR CLASSIFICATION

9) Corrosion Control or Fluoridation	Points	Value	Calculation
each treatment process utilitized not included in No. 6, No. 7, or No. 8 used for corrosion control or fluoridation	3	0	0
10) Disinfection Treatment Process with Inactivation Credit	**Points**	**Value**	**Calculation**
Ozone	10	0	0
Chlorine and/or chloramine	10	1	10
Chlorine dioxide	10	0	0
Ultra violet (UV)	7	0	0
11) Disinfection/Oxidation Treatment Process without Inactivation Credit	**Points**	**Value** 0	**Calculation** 0
Ozone	5	0	0
Chlorine and/or chloramine	5	0	0
Chlorine dioxide	5	0	0
Ultra violet (UV)	3	0	0
Other oxidants	5	0	0
12) any other treatment process that alters the physical or chemical characteristics of drinking water not included in Nos. 6, 7, 8, 9, 10, or 11	**Points** 3	**Value** 0	**Calculation** 0
13) Facility Flow	**Points**	**Value**	**Calculation**
2 per MGD or fraction of maximum permitted treatment facility capacity, maximum of 50 points	2	1	2
TOTAL POINTS			**36**
TREATMENT FACILITY CLASSIFICATION			**T2**

DISTRIBUTION CLASSIFICATION

System Name: Big Basin Water Company
System No: 4410001
Reviewing Engineer: Jonathan Weininger
Inspection Date September 2018

Section 64413.3. Distribution System Classification
Table 64413.3-A

Population	Class
1,000 or less	D1
1,001 through 10,000	D2
10,001 through 50,000	D3
50,001 through 5 million	D4
Greater than 5 million	D5

Population: 1,680
Distribution Class (based on population only): D2

System Characteristics Total: 25
Final Distribution Class: D3

Chief Operator Class: D3
Shift Operator Grade: D2

System Characteristics	Point Value	Calculation
(1) Pressure Zones = 1 to 3	0	0
Pressure Zones = 4 to 10	4	4
Pressure Zones= greater than 10	6	0
(2) Single Disinfectant Added	5	5
Multiple Disinfectants*	8	0
(3) Pump Station(s) up to 50 HP	4	4
Pump Station(s) greater than 50 HP	6	0
(4) Distribution Reservoirs = 1 to 5	4	0
Distribution Reservoirs greater than 5	6	6
(5) One or More Uncovered Reservoirs	10	0
(6) Customers Served Non-Potable Water	6	6
System Characteristics Total =		**25**

Overall Distribution Class (based on system characteristic total): **D3**

EXHIBIT C

February 22, 2019

System No. 4410001

Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006

CITATION NO. 02_05_19C_012
FAILURE TO TEST ALL BACKFLOW PREVENTERS ANNUALLY AND FAILURE TO IMPLEMENT A CROSS CONNECTION CONTROL PROGRAM
FOR 2008-2017

Enclosed is Citation No. 02_05_19C_022 (hereinafter "Citation"), issued to the Big Basin Water Company (hereinafter "Big Basin WC"), public water system. Please note that there are legally enforceable deadlines associated with this Citation.

Big Basin WC will be billed at the State Water Resources Control Board's (hereinafter "State Water Board"), hourly rate for the time spent on issuing this Citation. California Health and Safety Code (hereinafter "CHSC"), Section 116577, provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including but not limited to, preparing, issuing and monitoring compliance with a citation. At this time, the State Water Board has spent approximately two hours on enforcement activities associated with this violation.

Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on the Big Basin WC for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the State Water Board under Article 8 (commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter 4), may file a petition with the State Water Board for reconsideration of the citation, order or decision. Appendix 1 to the enclosed Citation contains the relevant statutory provisions for filing a petition for reconsideration (CHSC, Section 116701).

Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the State Water Board. The date of issuance is the date when the Division of Drinking Water mails a copy of the citation, order or decision. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.

Information regarding filing petitions may be found at:

http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml

If you have any questions regarding this matter, please contact Jonathan Weininger of my staff at (831) 655-6932 or me at (831) 655-6939.

Sincerely,

Jan R. Sweigert, P.E.
District Engineer, Monterey District Office
Northern California Field Operations Branch
Division of Drinking Water

Enclosures

Certified Mail No. 7008 1830 0004 5435 1353

cc: Santa Cruz County Environmental Health Services

California Public Utilities Commission (CPUC) Water Division
Rami Khalon, CPUC Director - Water Division: raminder.kahlon@cpuc.ca.gov
Bruce Deberry, CPUC Water Division Bruce.deberry@cpuc.ca.gov
Adam Thaler, CPUC Water Division adam.thaler@cpuc.ca.gov

CPUC Office of Ratepayer Advocates
Pat Ma, pat.ma@cpuc.ca.gov
DRAWaterAL@cpuc.ca.gov

Citation No. 02_05_19C_012

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Name of Public Water System: Big Basin Water Company

Water System No: 4410001

Attention: Jim Moore, Manager
PO Box 197
Boulder Creek, CA 95006

Issued: February 22, 2019

CITATION FOR NONCOMPLIANCE

CALIFORNIA HEALTH AND SAFETY CODE, SECTION 116555(a)(2) AND CALIFORNIA CODE OF REGULATIONS, TITLE 17 SECTIONS 7584 and 7605

FAILURE TO TEST EACH BACKFLOW PREVENTER ANNUALLY AND FAILURE TO IMPLEMENT A CROSS-CONNECTION CONTROL PROGRAM FOR CALENDAR YEARS 2008 to 2017

The California Health and Safety Code (hereinafter "CHSC"), Section 116650 authorizes the State Water Resources Control Board (hereinafter "State Water Board"), to issue a citation to a public water system when the State Water Board determines that the public water system has violated or is

violating the California Safe Drinking Water Act (hereinafter "California SDWA"), (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit, or order issued or adopted thereunder.

The State Water Board, acting by and through its Division of Drinking Water (hereinafter "Division"), and the Deputy Director for the Division, hereby issues Citation No. 02_05_19C_012 (hereinafter "Citation"), pursuant to Section 116650 of the CHSC to the Big Basin Water Company (hereinafter "Big Basin WC"), for violation of Section 116555(a)(2) and California Code of Regulations (hereinafter "CCR"), Title 17, Sections 7584 and 7605.

STATEMENT OF FACTS

Big Basin WC is classified as a community public water system with a population of 1,680 serving 601 connections. Big Basin WC operates under Domestic Water Supply Permit No. 02-05-44-94P-001 issued by the State Water Board on February 11, 1994.

California Health and Safety Code, Section 116555(a)(2) requires all public water systems to not be subject to backflow under normal operating conditions. CCR, Title 17, Section 7584 requires the water supplier to protect the public water supply from contamination by implementation of a cross-connection control program. CCR, Title 17, Section 7584(f) requires the maintenance of records of locations, tests, and repairs of backflow preventers. CCR, Title 17, Section 7605(a-e) requires all backflow preventers to be tested at least annually or more frequently if determined to be necessary by the health agency or water supplier. Backflow preventers must be tested by persons who have demonstrated their competency in testing the devices to

the water supplier or health agency. When devices are found to be defective, they must be repaired or replaced in accordance with the provisions of CCR, Title 17, Division 1, Chapter 5.

During the State Water Board's 2013, 2016, and 2018 sanitary survey reports, the State Water Board noted that Big Basin WC's eight to 10 reported backflow assemblies were not all tested annually. From information submitted in Electronic Annual Reports (EAR)s from 2008 to 2017, Big Basin WC has either not reported annual backflow preventer testing, or reported none or one of the system backflow preventers were tested annually. Backflow preventer testing from 2008 to 2017 is summarized in the following table:

Year	Number of Backflow Preventers:		
	Total Number	Installed	Tested
2017	10	0	0
2016	8	0	1
2015	8	0	1
2014	10	No information reported in EAR	
2013	EAR not submitted		
2012	10	No information reported in EAR	
2011	10	No information reported in EAR	
2010	10	No information reported in EAR	
2009	10	0	1
2008	10	0	1

At the time of the 2018 sanitary survey inspection, Big Basin WC was unable to provide a list of all backflow preventers or document the annual testing of backflow preventers pursuant to CCR, Title 17, Section 7604. Big Basin WC could not provide documentation of the cross connection surveys to identify water user premises where cross-connections are likely to occur pursuant to CCR, Title 17, Section 7584(b).

DETERMINATION

The State Water Board has determined that the Big Basin WC has failed to comply with the CHSC, Section 116555(a)(2) and CCR, Title 17, Sections 7584, 7585, and 7605.

DIRECTIVES

Big Basin WC is hereby directed to take the following actions:

1. By **March 25, 2019,** submit a plan and schedule to fully implement a cross connection control program that includes all the elements contained in CCR, Title 17, Section 7584**.** By **October 10, 2019,** the cross-connection control program must be fully implemented by completing the tasks described in Directives 2 through 9.

2. By **October 10, 2019**, provide a copy of Big Basin WC's adopted cross connection control program operating rules or ordinance. The cross-connection control program operating rules or ordinance must be approved by the California Public Utilities Commission.

3. By **October 10, 2019**, conduct and document a survey and hazard evaluation to identify water user premises where cross-connections are likely to occur in accordance with CCR, Title 17, Sections 7584(b) and 7585 and submit a report summary with recommendations and an implementation schedule. The cross-connection survey must be performed by an individual with experience conducting cross connection surveys and can be conducted by Big Basin WC or a contract cross connection specialist. A detailed description of a cross connection survey and hazard evaluation is included in Appendix A.

4. Big Basin WC must require the installation of appropriate backflow protection in accordance with the CCR, Title 17, Sections 7601, 7602, 7603, 7604, and 7605(d). Appropriate backflow preventers must be installed in accordance with CCR, Title 17, Section 7601 and 7604 at the locations identified in the cross-connection survey described in Directive 3. Approved backflow preventers must be installed following installation standards in accordance with CCR, Title 17, Section 7603.

5. By **September 30, 2019**, complete 2019 annual testing of all backflow preventers.

6. By **October 10, 2019**, identify and document the total number of backflow preventers in the water system service area. Provide a summary of all backflow preventers in the service area including the backflow preventer type, make and model, location (address), and a copy of the 2019 backflow testing report.

7. Provide a written overview of the procedure and system for record keeping, maintenance, and annual backflow preventer testing scheduling and tracking by **October 10, 2019**.

8. Provide the name and qualifications of the Big Basin WC's cross connection control program coordinator by **April 10, 2019**. The connection control program coordinator must be trained in cross-connection control and can be a contract employee.

9. Big Basin WC must conduct at annual testing of all system backflow preventers and provide annual proof to the Division. Big Basin WC must submit copies of all calendar year backflow preventer testing

reports to the Division no later than the 10th day of January in the following year.

10. Send quarterly status updates on Big Basin WC's progress towards completing the directives included in this Citation to the State Water Board. The first quarterly status update must be received on or before **April 10, 2019** and subsequent updates must be received every three months thereafter according to the following schedule:

Quarter	Quarterly Status Update Due Date
1st quarter (January 1 – March 31, 2019)	April 10, 2019
2nd quarter (April 1 – June 30, 2019)	July 10, 2019
3rd quarter (July 1 – September 30, 2019)	October 10, 2019
4th quarter (October 1 – December 31, 2019)	January 10, 2020

11. Big Basin WC must include this violation in its 2018 Consumer Confidence Report in accordance with CCR, Title 22, Section 64481(g)(1). A draft copy of Big Basin WC's 2018 Consumer Confidence Report must be submitted for review and approval prior to distribution. The draft 2018 Consumer Confidence Report must be sent to the Division for review no later than **June 1, 2019**. The Division approved 2018 Consumer Confidence Report must be distributed to Big Basin WC customers no later than **July 1, 2019.**

12. By **March 4, 2019** complete and return to the State Water Board the "Notification of Receipt" form attached to this Citation as Appendix 2. Completion of this form confirms that the Big Basin WC has received

this Citation and understands that it contains legally enforceable directives(s) with due dates.

All submittals required by this Citation must be electronically submitted to the State Water Board at the following address. The subject line for all electronic submittals corresponding to this Citation must include the following information: Water System name and number, citation number and title of the document being submitted.

Jan R. Sweigert, P.E.
Dwpdist05@waterboards.ca.gov

The State Water Board reserves the right to make modifications to this Citation as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Citation and shall be effective upon issuance.

Nothing in this Citation relieves the Big Basin WC of its obligation to meet the requirements of the California SDWA (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit or order issued or adopted thereunder.

PARTIES BOUND

This Citation shall apply to and be binding upon the Big Basin WC, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

SEVERABILITY

The directives of this Citation are severable, and the Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Citation.

Jan Sweigert — 2/22/2019

Jan R. Sweigert, P.E. — Date
District Engineer, Monterey District Office
Northern California Field Operations Branch
Division of Drinking Water

Appendices (2)

1. Cross Connection Control Survey and Hazard Assessment Overview
2. Notification of Receipt Form

Certified Mail No. 7008 1830 0004 5435 1353

APPENDIX 1 – CROSS CONNECTION SURVEY AND HAZARD ASSESSMENT OVERVIEW

The water system must evaluate the degree of potential health hazard to the public water supply which may be created as a result of conditions existing on a user's premises. The water supplier, however, shall not be responsible for abatement of cross-connections which may exist within a user's premises. As a minimum, the evaluation should consider: the existence of cross-connections, the nature of materials handled on the property, the probability of a backflow occurring, the degree of piping system complexity and the potential for piping system modification. Special consideration shall be given to the premises of the following types of water users:

a. Premises where substances harmful to health are handled under pressure in a manner which could permit their entry into the public water system. This includes chemical or biological process waters and water from public water supplies which have deteriorated in sanitary quality.
b. Premises having an auxiliary water supply, unless the auxiliary supply is accepted as an additional source by the water supplier and is approved by the State Water Board.
c. Premises that have internal cross-connections that are not abated to the satisfaction of Big Basin WC or the State Water Board.
d. Premises where cross-connections are likely to occur, and entry is restricted so that cross-connection inspections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist.
e. Premises having a repeated history of cross-connections being established or re-established.

APPENDIX 2 – NOTIFICATION OF RECEIPT

Citation Number: No. 02_05_19C_012

Name of Water System: Big Basin Water Company

System Number: 4410001

Certification

I certify that I am an authorized representative of the Big Basin Water Company and that Citation No. No. 02_05_19C_012 was received on _____. Further I certify that the Citation has been reviewed by the appropriate management staff of the Big Basin Water Company and it is clearly understood that Citation No. No. 02_05_19C_012 contains legally enforceable directives with specific due dates.

_____ _____

Signature of Water System Representative Date

THIS FORM MUST BE COMPLETED AND RETURNED TO THE STATE WATER BOARD, DIVISION OF DRINKING WATER, NO LATER THAN March 5, 2019

Disclosure: Be advised that the California Health and Safety Code, Sections 116725 and 116730 state that any person who knowingly makes any false statement on any report or document submitted for the purpose of compliance with the Safe Drinking Water Act may be liable for, respectively, a civil penalty not to exceed five thousand dollars ($5,000) for each separate violation or, for continuing violations, for each day that violation continues, or be punished by a fine of not more than $25,000 for each day of violation, or by imprisonment in the county jail not to exceed one year, or by both the fine and imprisonment.

EXHIBIT D

Big Basin Water Co. & Sanitation
16575 Jamison Creek Rd., Boulder Creek, CA 95006
(831) 338 - 2933

March 3, 2019

Jan R. Sweigert, P.E.
District Engineer, Monterey District Office
Northern California Field Operations Branch
Division of Drinking Water

RE: Response to 2018 Sanitary Survey of Big Basin Water Company (No. 4410001)

Dear Ms. Sweigert,

On January 10, 2019, Big Basin Water Company received your 2018 Sanitary Survey report of the water treatment plant and distribution system. This letter and the enclosed documents provide a written response to the various deficiencies identified in the Sanitary Survey, as well as a list of the deficiencies and a plan to correct them. However, this plan and timeline for improvements is dependent on receiving the necessary funding as an outcome of the current Big Basin Water Company rate case filing with the California Public Utilities Commission.

If you have any questions, please contact Jim Moore at (831) 338 – 2933 or by email at bbwater197@yahoo.com.

Sincerely,

Jim Moore
Chief Operator/Owner
Big Basin Water Company

Enclosed:

1 – 2018 Sanitary Survey Response Memorandum
2 – Map of Existing System Layout and Proposed Corrective Actions
3 – Budgetary Cost Estimate of Improvements

Big Basin Water Co. & Sanitation
16575 Jamison Creek Rd., Boulder Creek, CA 95006
(831) 338 - 2933

Email cc:

Santa Cruz County Environment Health Services

CPUC Water Division
Rami Khalon, CPUC Director – Water Division
Bruce Deberry, CPUC Water Division
Adam Thaler, CPUC Water Division

CPUC Public Advocates Office
Pat Ma, CPUC PAO Program & Project Supervisor

2018 Sanitary Survey Response Memorandum

1. Introduction

This memorandum summarizes deficiencies and recommendations identified by the State Water Resource Control Board Division of Drinking Water (DDW) with proposed corrective actions to be taken by Big Basin Water Company (BBWC), including the timing of any improvements, construction costs to complete, and long-term strategies. The corrective actions presented below are grouped together based on the primary station where deficiencies were identified. An ordered list of the deficiencies as identified in the sanitary survey is available in the table at the end of this document.

2. Cost Estimating

Construction and maintenance costs presented herein are based on the following assumptions:

- All new construction will meet current application standards and codes
- Costs presented are based on general contractor, manufacturers, and/or professional engineering estimates
- Unless otherwise specified, retirement costs are not included with the cost estimate
- All construction is assumed to be design-build by the general contractor
- Costs included standard industry markups including Company Labor & Overhead (10%), Permits and Municipal Fees (3%), Construction Contingencies (15%)
- All costs are Present Valve (PV) for 2019
- Total estimated costs for identified corrective actions include costs for short-term and long-term solutions

3. Proposed CAPEX Corrective Actions

3.1. Well 4 Station

Identified Deficiency: Well 4 does not have a 50-foot sanitary seal and continually exerts a chlorine demand on system water that reduces the system chlorine residual. BBWC has been required to install chlorination at Well 4 since the 1994 permit from DDW but has not yet done so. BBWC must provide a plan for wellhead disinfection to DDW no later than March 10, 2019 and provide wellhead disinfection no later than May 20, 2019.

Proposed Corrective Action: In the short term, BBWC has installed a free chlorine injection system to improve the free chlorine residual in the distribution system. The electrical configuration of the chemical pump ensures that the pump only injects chlorine into the tank inlet piping when the groundwater well is operating (see Figure 1).

Figure 1. Temporary Disinfectant Injection Configuration at Well # 4

In the long term, a County permitted chemical storage and injection system will be installed. The system will include a 12.5% sodium hypochlorite solution. The solution will be stored with double containment consisting of a 55-gallon drum inside of a lockable polyethylene housing rated for the outdoors. This PE housing unit will be seated and anchored into a concrete foundation and will be located adjacent to the existing bolted steel tank. A peristaltic pump will inject free chlorine into the well discharge piping through a retractable injection assembly and using chemical piping and tubing to ensure double containment. The chemical pump will be activated whenever the groundwater well pump is running. Grab sampling from the tank outlet piping will confirm disinfectant levels entering the distribution system are adequate. Additional work will be performed to ensure that there is drainage away from the tank base.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $253,900

3.2. Corvin Creek Station

Identified Deficiency: The existing Corvin Creek sedimentation tank is in poor physical condition and shows signs of corrosion. Additionally, the reservoir is located on an unstable foundation. The reservoir could potentially tip over if a landslide or a strong seismic event occurred.

Proposed Corrective Action: The Corvin Creek sedimentation tank was originally constructed as a settling tank for the spring diversion but has since become obsolete. Currently, all raw water sources are conveyed to a more recently constructed 5,000 gallon polyethylene settling tank at Jamison station. Therefore, the Corvin Creek tank is no longer necessary for system operations and retirement of this asset is recommended. Existing piping and associated appurtenances at the existing tank site location will be modified to bypass the Corvin Creek tank using 6-inch PVC or HDPE piping.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $15,800

3.3. Jamison Station

3.3.1. Intake 1 Sedimentation Tank

Identified Deficiency: The intake includes a 2,000 gallon steel sedimentation tank in poor condition with signs of corrosion. BBWC needs to replace the tank and provide a stable foundation.

Proposed Corrective Action: The existing sedimentation tank has become obsolete since the construction of a 5,000 gallon polyethylene settling tank at Jamison station. Therefore, the Intake 1 sedimentation tank is no longer necessary for system operations and retirement of this asset is recommended. Existing piping and associated appurtenances at the existing tank site location will be modified to bypass the sedimentation tank using 6-inch PVC or HDPE piping.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $15,800

3.3.2. Intake Transmission Lines & Screen

Identified Deficiency: The previous steel transmission lines for both intake 1 and 2 are broken and flexible pipes have been installed temporarily. BBWC must install a permanent transmission line using NSF 61 materials. In addition, the screen on Intake 2 was not properly secured.

Proposed Corrective Action: Replace the existing intake piping with 6-inch PVC or HDPE pipe from each intake (approximately 700-ft of piping to be installed) with all air-valves, valving, blowoffs, and all necessary appurtenances to service the line. Install a new secured screen on Intake 2.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $95,500

3.3.3. Reservoir Cross Connection with Distribution System

Identified Deficiency: The Jamison surface water reservoir must be physically disconnected from the distribution system. Due to the nature of the cross connection (separated only by a closed isolation valve), BBWC must develop a well researched plan that reduces the risk of potable water contamination with raw surface water.

Proposed Corrective Action: The existing piping between Jamison Reservoir and the distribution system will be cut, capped, and separated with concrete to create a physical separation between these two sources of water, thereby eliminating all risk of cross connection at this location.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: $22,200

3.4. Hill House Station

Identified Deficiencies: Plants have grown around the site and need to be cut back around the tank perimeter. The tank is located adjacent to a home with its own well and tank. BBWC must ensure there are no cross connections and if the home is a customer of BBWC, the home owner has an approved reduce pressure assembly at their meter. The polyethylene tank does not have a foundation. As the budget allows, a more permanent foundation with seismic restraints should be installed. The tank site is not fenced. DDW recommends the site be fenced.

Proposed Corrective Action: BBWC has verified no cross connection exists and vegetation surrounding the tank has been cleared (see Figure 3). To secure the tank, BBWC will install a seismic restraint assembly consisting of four-way cables, cable clamps or clips, and anchor bolts. Anchor bolt length and depth to be determined by a soil or foundation engineer, similar to the example shown in Figure 2. BBWC will also install approximately 170 ft of fence surrounding the tank site with a 12-ft swing gate, as well as about 400 sf of base rock or gravel roadway to provide safer access to the site.

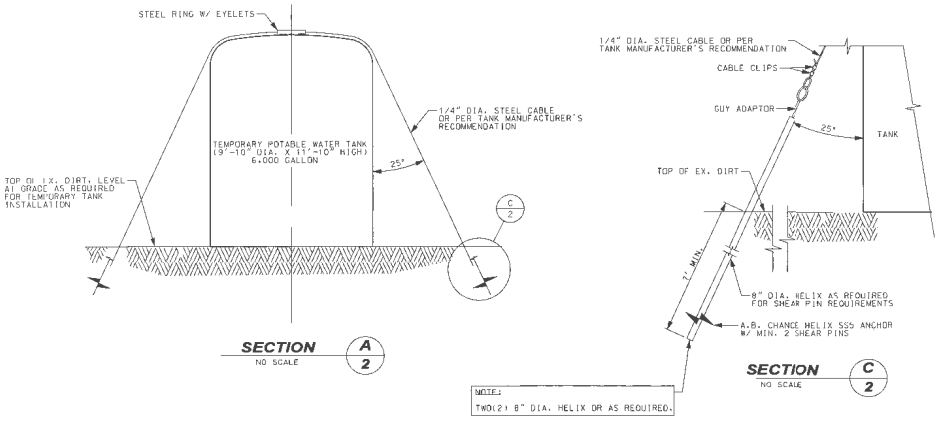

Figure 2. Example of Seismic Restraints

(Space for picture)

Commented [WJ1]: Jim – please delete note and insert picture here.

Figure 3. Vegetation cleared surrounding Hill House Tank

Proposed Year for Corrective Actions to be Complete: 2022

Total Estimated Cost: $34,200

3.5. Water Treatment Plant

Identified Deficiency: DDW noted the following issues at the water treatment plant:

- The filter unit nearest the entrance door has a break in the clarification media screen, which has allowed the buoyant clarification media to enter the filter cell. The loss of clarification media will affect treatment plant performance. The screen must be replaced with a new screen, and the lost clarification media must be replaced.

- BBWC is required to purchase and install a chlorine residual analyzer due to past violations of grab sampling requirements. The Division requested an approved chlorine residual analyzer to be installed by April 30, 2018, but BBWC has not purchased and installed an analyzer to date. A new continuous chlorine residual analyzer using an approved EPA method using must be installed.

- The treatment plant building is a wood building in poor overall condition. The plant was overrun with rodents, so the BBWC keeps cats in the treatment plant building. BBWC must repair building deficiencies including eliminating potential entrance points for domestic animals and rodents. BBWC should begin planning to replace the treatment plant building to address the rodent problem.

- Parts of the existing turbidimeter were replaced with parts from another turbidimeter. Due to the overall condition and age of the turbidimeter, BBWC must budget to replace the turbidimeter with a new EPA method certified turbidimeter no later than November 10, 2019. A manufacturer representative must evaluate the current turbidimeter for accuracy. BBWC must continue to perform calibrations according to the manufacturer's recommendations.

- Until a manufacturer representative has evaluated the turbidimeter, BBWC must have its laboratory analyze filtered water turbidity samples at least once every two weeks and report the result to the Division along with the turbidimeter turbidity reading.

- DDW recommends BBWC install an additional turbidimeter so there are turbidimeters on each filter unit. A backup turbidimeter should also be available, as required by Section 64659(a)(2), which states that standby replacement equipment should be available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection.

- DDW recommends BBWC install a new turbidimeter on each individual filter effluent (IFE) line.

Proposed Corrective Action: To address DDW's comments in the short term, BBWC intends to do the following work identified below. However, given the state of the existing WTP and that much of the infrastructure is now over 26 years old, it is clear that the existing plant is in need of a complete long-term evaluation. For this reason, BBWC is budgeting for a Water Treatment Plant Facilities Plan to be completed by a professional engineering consultant in 2020 (see Section 4.3).

- Repair filter screens as necessary and replace clarification media in both units
- Replace the Programmable Logic Controls (PLC) on both units. The existing PLCs are backed on cassette tapes, no longer supported by the manufacturer or any suppliers.
- Install a HACH CLT10sc Total Chlorine Analyzer with SC200 Controller on the treated water line sample tap to allow for continuous monitoring. The HACH chlorine analyzer is compliant with EPA Method 334.0 for reporting chlorine residual measurements. The analyzer allows for real-time control of disinfection processes by providing continuous readings and self-diagnostics to alert users when the process has changed or the instrument needs servicing.
- Clean the building and repair all holes and seal openings near windows, vents, and doors in the building to limit entrance points for animals. Install rodent bait stations around the exterior perimeter for the building and replace all the rotten or damaged wood siding.
- Replace the existing turbidimeter with two HACH TU5300 online laser turbidimeters; one on the effluent end of each filter unit. Purchase a third turbidimeter as backup to increase system reliability. Turbidimeters have real-time capabilities and are compliant with EPA Method 180.1. A list of turbidimeter alarms or shutdown set points will be provided to DDW.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $236,300

3.5.1. WTP Chemical Storage Tanks and Storage Building

Identified Deficiency: Chemical Storage Tanks have large holes in their lids and are corroded. Furthermore, the secondary containment is partially full of ponding liquid, which poses an unknown risk. BBWC needs to install new alum and chlorine storage tanks and store the tanks separately. Chlorine and Alum are of different chemical storage groups and as a safety precaution should not be stored together. One of the chemical storage tanks in the chemical storage building is double contained, but both chemical storage tanks are stored together in the same containment facility and next to each other. The chemicals should be further separated and not stored in the same double containment box. The Chemical Storage Tanks (chlorine and alum) have a treated water line (for dilution) plumbed directly into storage tank. A proper air gap must be provided between the treated water fill line and the chemical tanks.

Proposed Corrective Action: BBWC will replace the existing chemical storage building with a new County permitted chemical storage facility that includes a wooden roof structure and concrete foundation. Two lockable polyethylene modular spill pallet with chemical containment and rated for outdoor storage will be housed and anchored to the concrete pad. 55 gallon drums of sodium hypochlorite and aluminum sulfate will be stored separately in each of the modular spill pallets. BBWC will prepare and submit a Hazardous Materials Business Plan to the County. In the long-term, the Water Treatment Plant Facilities Plan will consider including a permanent indoor chemical storage facility as part of a new building consideration.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $149,000

3.5.2. WTP Backup Generator & Site Security

Identified Deficiency: BBWC does not have any backup power for the water treatment plant and this is the main source of supply into the system. In addition, the treatment plant is not secured by any fencing or gate.

Proposed Corrective Action: Install a 20-ft wide double swing gate and 950-ft of 6-ft high chain link fencing around all Jamison Station facilities as one enclosed area, which includes the sedimentation tank, chemical storage building, reservoir, WTP building, and storage tank. Install a 20-ft wide barrier gate at the entrance of the road leading to Jamison Station from Jamison Creek Road.

A backup generator will be considered in the Water Treatment Facilities Plan proposed as part of a long-term improvement plan to ensure the treatment plant can continue to operate and serve customers even in the event of a power outage.

The site security measures and backup generator will be addressed in 2022 following completion of the Water Treatment Plant Facilities Plan. At this time, only fencing costs are included below.

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: $119,300

3.6. Robin Hood (Tank #2) Station

Identified Deficiency: The Robin Hood bolted steel tank provides a storage capacity of 10,000 gallons and primarily serves as an equalization storage reservoir. The horizontal tank is supplied by gravity from the 40,000 gallon Robin Hood Tank laying at an approximate elevation of 1,300 feet. In its current state, the tank is in poor physical condition and does not meet existing drinking water standards. Fallen tree branches obstruct access to the reservoir. Moreover, the exterior of the reservoir shows signs of advanced corrosion. Additionally, the tank lays on an unstable wooden foundation without any strong supports.

Proposed Corrective Action: As a temporary solution, BBWC will install a 2-inch bypass pressure reducing valve, set an adequate setpoint to serve customers in the Kings Highway Zone, and bypass the existing the horizontal Robin Hood tank. Additional piping will also be installed as

needed in order to bypass Robin Hood Tank #2. As a long-term solution, BBWC plans to construct a complete 6-inch regulating station at the reservoir site. The new regulating station will supply the existing Kings Highway zone service area. Once the construction of the regulating station is completed, the existing Robin Hood horizontal tank will be properly retired. The new regulating station will incorporate a Singer 6-inch S106-PR-C-SM dual-rolling diaphragm. If the primary chamber within the diaphragm fails, the secondary chamber will take over and regulate the downstream pressure at a desired pre-determined setpoint. The 6-inch valve can sustain a maximum flow rate of 1,800 gpm exceeding both fire flow requirements and maximum day demands in the zone.

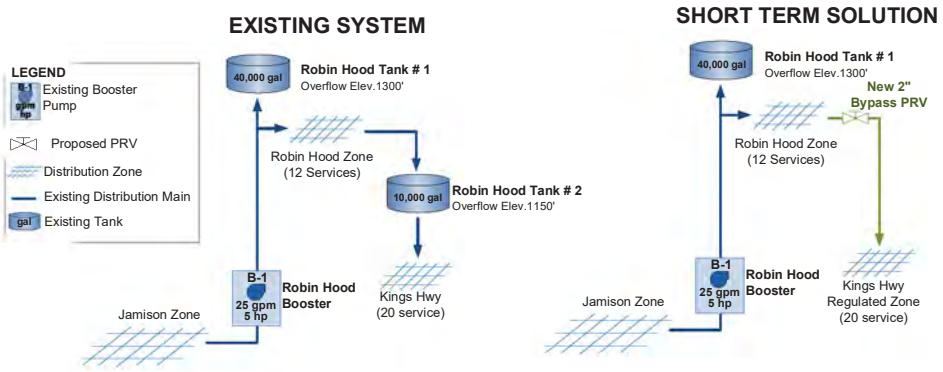

Figure 4. Proposed Corrective Action for Robin Hood Horizontal Tank (Tank # 2) – Short Term

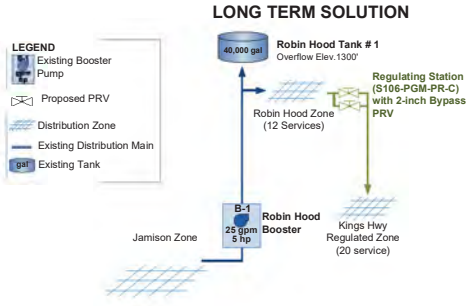

Figure 5. Proposed Corrective Action for Robin Hood Horizontal Tank (Tank # 2) – Long Term

Proposed Year for Corrective Action to be Complete: 2019 (2-inch bypass), 2023 (6-inch regulating station)

Total Estimated Cost: $130,800

3.7. Galleon Heights Booster Station and Storage Site

Identified Deficiencies: Several holes were observed on the wooden side panels of the pump house. Rodent droppings were present on above-grade piping and on the pump bodies. Rodent droppings can create unsanitary conditions and potentially contaminate the source of water supply water. Additionally, the Galleon pump station is severely oversized in comparison to the demands of the service area the pumps supply water to. Consequently, the surplus capacity of the booster pumps limit system operations flexibility, as the clearwell must remain close to its maximum level for the pumps to operate safely. Moreover, the pumps are in poor physical condition and exhibit signs of physical deterioration due to corrosion.

Proposed Corrective Actions: The existing wooden building has exceeded its useful life and will be replaced with a new wooden structure. The inside of the building will be cleaned and the piping will be sandblasted and recoated.

Existing booster pumps and motors will be replaced with two 100-gpm vertical in-line pumps to provide more reliable supply to the tank and replace the oversized equipment currently there. Electrical and logic controls will be installed to allow BBWC to operate pumps based on the water level in the Galleon tank and prevent overflow events. Scope of work would also include a new backup generator receptacle to allow for continued pumping operations to the Galleon reservoir in the occurrence of a power outage.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $125,200

3.8. Tradewinds (Galleon Heights Tank Site) Station

3.8.1. Galleon Heights Reservoir Improvements

Identified Deficiencies: The Tank Vent Screen located at the center of the roof reservoir is corroded. Depending on the size of the opening in the vent induced by corrosion, debris, living organisms and other non-desirable pathogens can make their way into the water supply. The roof access hatch does not include a seal. The sealing gasket has primary goals to prevent debris, pathogens and organisms to contaminate the water supply. The overflow terminates approximately two inches from the ground and does not ensure minimum standard clearance compliance. Screen at the bottom of the overflow pipe is not effective in its current configuration.

Proposed Corrective Actions: The installation of a new gasket seal around the existing hatch has already been completed as well as a #24 Mesh stainless steel screen to retrofit the existing vent screen (see Figures 6 and 7). As a temporary solution, to ensure the overflow pipe complies with existing air-gap requirements, BBWC has cut the overflow pipe and installed a new screen at the bottom of the overflow pipe (see Figure 8). As a long-term solution, BBWC will install a Tideflex Dechlorinating Overflow Security Assembly (DOSA). The DOSA will dechlorinate any overflow water to comply with the Statewide General NPDES Permit for Drinking Water Systems Discharges and prevent debris and insects from entering the tank. A new storm drain and piping will be also be installed to allow overflow water to drain away from the tank.

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Commented [WJ2]: Jim – please delete note and insert a picture here of the new hatch gasket.

Figure 6. Sealed Shoe-Box Hatch

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Commented [WJ3]: Jim – please delete note and insert picture here of the new vent screen.

Figure 7. New #24 Mesh Vent Screen

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Commented [WJ4]: Jim – please delete note and insert picture here of the cut and screened overflow pipe.

Figure 8. Existing Overflow Pipe Cut and Screened

Included with this work will be the installation of a water level transducer, spread spectrum radio, and electrical work to enable the Galleon booster station to operate based on the water level inside the tank.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $61,400

3.8.2. Tradewinds Pressure System Improvements

Identified Deficiencies: The Tradewinds pressure system consists of three booster pumps, two bladder tanks, and a backup generator. Both pressure tanks were constructed in 1975 and have since become waterlogged due to ruptured bladders, and DDW identified these as needing to be removed or replaced. DDW also identified the existing piping in the pressure system as being aged and corroded, and in need of an overall improvement plan to address. The backup generator

has been out of service and needs to be fixed since this pressure system is the sole source of water for the customers in this pressure zone.

Proposed Corrective Actions: BBWC will replace both ruptured bladders inside the pressure tank with new Amtrol WX-456C bladder tanks. Existing piping and valving will be sandblasted and recoated. The existing generator has already been repaired and is now fully operational (see Figure 9). The existing roof and wood siding will also be replaced to protect the pumping equipment and ensure rodents do not enter the building.

Figure 9. Generator repaired and operational

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $136,400

3.9. China Grade (Camino Verde) Station

Identified Deficiency: The tank site is not secured and DDW recommends a perimeter fence be installed. BBWC must ensure that there are no connections to the previously used redwood tank and install a roof lock.

Proposed Corrective Action: Install 145 feet of 6-ft high chain link fencing surrounding the tank site with one 12-ft entry gate. Construct approximately 1,000 sf of base rock or gravel roadway for safe access to the site. BBWC has installed a roof lock (see Figure 10).

Figure 10: Roof lock on China Grade Tank.

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: $24,200

3.10. Rancho Dia (Santa Rosita) Station

Identified Deficiency: The redwood tank is a significant hazard due to the leaks, redwood condition, debris observed inside the tank, and many openings and breaks in the perimeter vent screen. According to Division records, the tank was constructed in 1958 and is past its useful life. Tank rehabilitation/replacement must be done in accordance with NSF 61, Waterworks Standards, and AWWA standards.

Proposed Corrective Action: To address the deficiency immediately, BBWC will disconnect the existing Rancho Dia Tank and install a 10,000 gallon polyethylene tank. This action will eliminate all hazards associated with the existing tank and ensure sufficient storage capacity is available to meet fire flow in the surrounding area. Once the existing redwood tank is removed from the site, the 10,000 gal polyethylene tank will be relocated and anchored to the existing tank foundation. In addition, a base rock or gravel roadway will be constructed for safer access to the site.

In the long-term, BBWC will evaluate retiring the Rancho Dia tank site all together. The Rancho Dia tank base elevation is lower than other storage facilities in Jamison zone, causing little to no turnover in the Rancho Dia tank and water age concerns. Installing a future regulator from the Hill House tank will satisfy customer demands, meet fire flow requirements, and eliminate the water age and hazards associated with the existing Rancho Dia tank site.

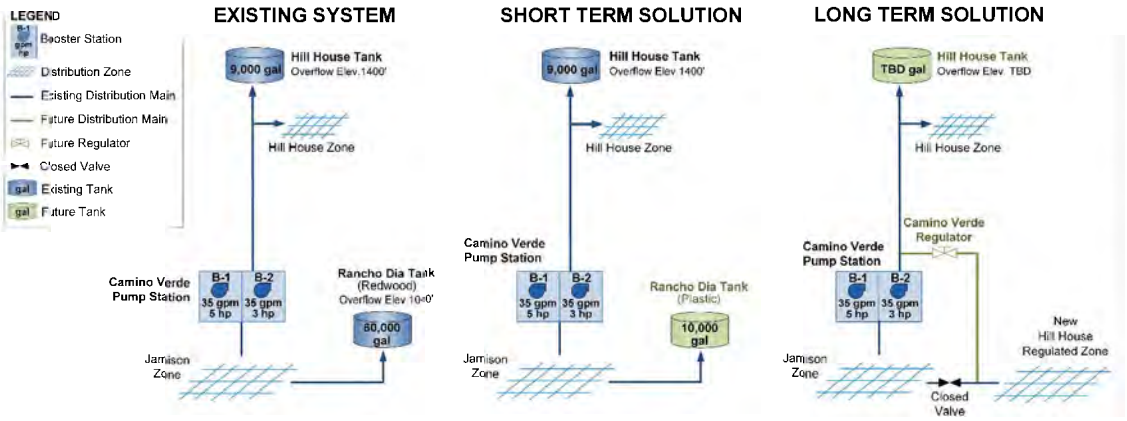

Figure 11: Rancho Dia and Hill House Short & Long-Term Solutions

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: $74,300

3.11. Oberst Station

Identified Deficiency: The Oberst tank is an aged small steel tank. The interior and exterior coatings are severely corroded. Large rust nodules were observed attached to the interior tank wall. The corrosion presents a sanitary and structural risk. BBWC must provide a plan and schedule for replacement of this tank no later than May 10, 2019. The replacement plan must include NSF 61, AWWA, and Waterworks Standards compliance and a plan to construct a tank foundation and provide proper seismic supports.

Proposed Corrective Action: BBWC will replace the Oberst tank with a 10,000 gallon polyethylene tank anchored to the existing foundation. BBWC will also install a fence surrounding the tank site with a 12-ft swing gate.

Figure 12: Oberst Station existing foundation

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: $64,600

3.12. Bloom Grade Station

Identified Deficiency: The tank site is not secured and DDW recommends a fence be constructed. Clarify Bloom Grade tank ownership, verify no cross connections exists, and install a tank drain and sample tap.

Proposed Corrective Action: Installation of about 170 ft of 6-ft high chain link fence surrounding the tank site with a 12-ft swing gate plus approximately 8,000 sf of base rock or gravel road to safely access the site. BBWC confirmed that no cross connection exists (see Figure 13). BBWC will install a tank drain and sample tap with other site improvements. BBWC is currently working with homeowners for easements and rights to access the tank.

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Commented [WJ5]: Jim – please delete note and insert picture here showing no cross connection.

Figure 13: No cross connection exists with Bloom Grade tank

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $71,800

3.13. Isolation Valves

Identified Deficiency: According to BBWC, there are some stretches of mainline without an isolation valve for miles. DDW recommends BBWC review all records and install isolation valves in accordance with CCR Title 22 Waterworks Standards.

Proposed Corrective Action: BBWC has reviewed its as-builts and will bring the mainline into compliance with the Waterworks Standards. Bringing the mainline into compliance will require the installation of 14 new line valves, spaced no farther than 1,320 feet apart along water mains. The installation of five new line valves will ensure that the requirement pertaining to tee and crossing connections is met. A summary of the number of valves and cost is presented in Table 1.

Table 1. Summary of Distribution Valve Requirements

Size (inch)	No. Valves	Installation (Cost per Valve)	Total Cost
2	2	$6,000	$12,000
4	8	$8,000	$64,00
6	4	$11,000	$44,000
8	3	$16,000	$48,000
10	1	$19,000	$19,000
12	2	$22,000	$44,000
Total	**20**	**-**	**$231,000**

Proposed Year for Corrective Action to be Complete: Five year program: 2020 – 2024

Total Estimated Cost: $231,000

3.14. Distribution Mainlines

Identified Deficiency: Lack of main replacement plan to replace leaky, aged, undersized (less than 4-inches), and above ground mainlines as part of a capital improvement plan. DDW recommends BBWC to develop a long-term main replacement program.

Proposed Corrective Action: Replace pipelines at a 1.5% rate, or approximately 1,360 ft of pipe per year. An age and failure rate analysis was performed considering the approximate current ages of pipelines in the distribution system and survival curves for existing pipe types. It was assumed that all steel pipelines were installed in the 1940's, all AC pipelines were installed in the 1960's, and all PVC pipelines were installed in the 1990's, and that the oldest pipes with the lowest survival rate are replaced first. The model calculates the average failure rate of all pipelines given their age and the pipe type's survival curve. It assumes that each year a certain percentage

of pipes are replaced, thus reducing the average age and average risk of pipelines across the system. The analysis showed that a replacement rate of 1.5% would ensure that the average age of pipelines in the system does not grow over time, but decreases from about 50 years today to 43 years in 2069 (see Figure 14). Additionally, replacing at a 1.5% rate will prevent the pipeline failure rate from escalating to an unmanageable level. Instead, risk of pipeline failure will steadily decrease over time (see Figure 15).

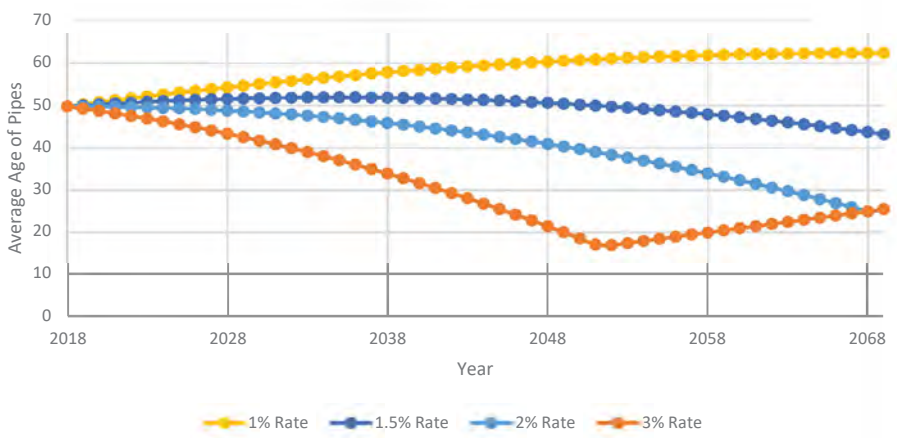

Figure 14: Average age of pipelines under 1-3% replacement programs

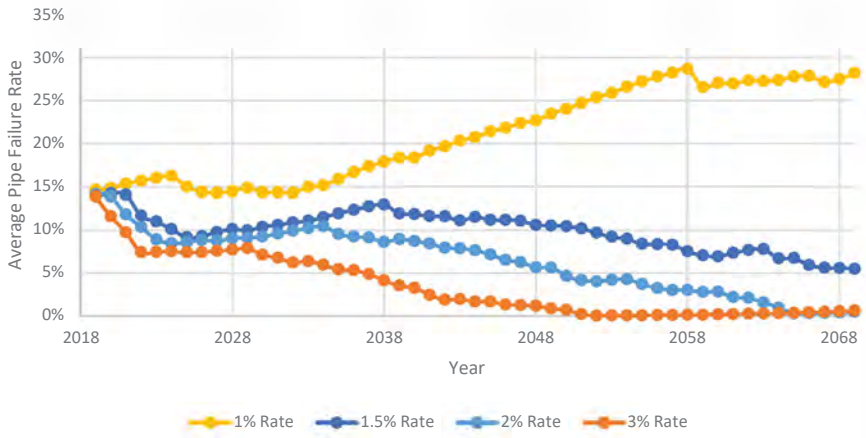

Figure 15: Average failure rate of pipelines under 1-3% replacement programs

Proposed Year for Corrective Action to be Complete: Starting in 2022 and ongoing

Total Estimated Cost: $270,000 / year

3.15. Retire Inactive Wells

Identified Deficiency: BBWC has two inactive well sources listed in DDW's database, Galleon Well 1 and Well 2. DDW recommends BBWC schedule to destroy these inactive groundwater sources.

Proposed Corrective Action: BBWC will work with a certified well driller to retire Well 1 and will clear the site of old pumping equipment and appurtenances, disinfect the well column, fill the void in with fill and sealing material, remove at least five feet below the surface and seal the top, and restore the site back to its original conditions.

According to BBWC's groundwater well consultant, Well 2 has the potential to be restored to provide approximately 35 gpm into the system. BBWC intends to evaluate the costs and benefits of restoring and receiving this well as part of the surface water capacity evaluation study (see Section 4.8).

Proposed Year for Corrective Action to be Complete: 2023

Total Estimated Cost: $26,200

4. Proposed Administrative Corrective Actions

4.1. Jamison Reservoir as a Surface Water Source

Identified Deficiency: BBWC is not permitted to use the Jamison Reservoir, a 3 MG artificial reservoir primarily fed by overflow from surface water sources, as a water source. The reservoir is not permitted raw surface water source and cannot be used as a surface water source.

Proposed Corrective Action: BBWC has stopped using Jamison Reservoir as a surface water source. BBWC will evaluate the need for this source water and apply for the source to be permitted if the use of this source water is deemed necessary to meet system demands.

Proposed Year for Corrective Action to be Complete: Now

Total Estimated Cost: N/A

4.2. Quarterly Tank Inspection

Identified Deficiency: Based on the condition of the storage tanks, BBWC is not adequately inspecting storage tanks. BBWC must begin to inspect all tanks at least quarterly and inspect Rancho Dia tank monthly. BBWC must provide a summary of tank inspections quarterly using the form provided by DDW.

Proposed Corrective Action: BBWC will perform tank inspections, at minimum, on a quarterly basis. BBWC will document the tank inspections by completing the forms provided by DDW in the

2018 *Sanitary Survey Report*. The Rancho Dia (Rosita) tank is scheduled to be replaced as soon as possible with a new 10,000 gallon polyethylene tank.

Proposed Year for Corrective Action to be Complete: Now & ongoing

Total Estimated Cost: N/A

4.3. WTP Facilities Plan

Identified Deficiency: The filtration units are in poor overall condition and must be evaluated by a WesTech® representative or consulting engineer with experience in surface water treatment to determine necessary upgrades.

Proposed Corrective Action: BBWC acknowledges the existing surface water treatment facility has exceeded the extent of its useful life and is in need of significant investment. While BBWC has approached WesTech® vendor to replace the media and improve the Programmable Logic Control (PLC), these systems are more than 26 years old and are in need of a long-term evaluation. For example, the PLC is currently backed up on cassette tapes, a format which is no longer supported by the manufacturer or any representative distributor. Even with the immediate improvements proposed in Section 3.3.1, BBWC intends to contract with a professional engineering consultant with experience in surface water treatment to prepare a master facilities plan for the Jamison Station.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $50,000

4.4. Surface Water Treatment Plant Operations Plan

Identified Deficiency: In accordance with CCR, Title 22, Section 64661, BBWC shall update its surface water treatment plant operations plan.

Proposed Corrective Action: BBWC will consult with a professional engineering consultant to review and revise BBWC Operations Plan after the immediate improvements and new equipment has been installed at the surface water treatment. The new Operations Plan will address all tasks listed in the 2018 *Sanitary Survey*, as well as the following:

- Chlorine residual grab sampling and reporting requirements
- Settled water turbidity grab sampling and reporting requirements
- pH monitoring standard approach using EPA approved methodology
- pH and temperature daily monitoring from water leaving the treated water contact time
- Clarifier and filter loading rates calculation and reporting requirements

This will be completed after WesTech® completes the retrofit and improvements to the existing Microfloc treatment plant.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $25,000

4.5. Distribution System Chlorine Residual

Identified Deficiency: As a surface water system, a detectable residual of 0.2 mg/L must be measured in at least 95 percent of the distribution samples.

Proposed Corrective Action: BBWC has increased the chlorine dosage to ensure a minimum 0.2 mg/L free chlorine residual throughout the distribution system. In addition, BBWC will implement all the disinfection system improvement projects listed above.

Proposed Year for Corrective Action to be Complete: Ongoing

Total Estimated Cost: N/A

4.6. Cross Connection Control Program

Identified Deficiency: BBWC must provide a copy of its current cross connection control operating rules. BBWC must conduct a system wide cross connection control survey, and identify all backflow prevention assemblies in the system and provide a list to DDW.

Proposed Corrective Action: BBWC will consult with a backflow prevention specialist to assist in the preparation of a Cross Connection Control Program, which will include standardize rules, equipment, and testing requirements. This program with then be presented to the California Public Utilities Commission for review and approval. Once the program is approved, the consultant will complete a system wide survey and inventory all backflow prevention assemblies in the system.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: $25,000

4.7. Watershed Sanitary Survey

Identified Deficiency: BBWC must conduct a watershed sanitary survey in accordance with CCR, Title 22, Section 64665

Proposed Corrective Action: BBWC will contract with a professional environmental consultant to prepare an updated Watershed Sanitary Survey in compliance with CCR Title 22 64665. The survey and report will include a physical and hydrogeological description of the watershed, a summary of source water quality monitoring data, a description of activities and sources of contamination, description of any significant changes that have occurred since the last survey which could affect the quality of the source water, a description of watershed control and management practices, an evaluation of the system's ability to meet requirements, and recommendations for any corrective actions.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $25,000

4.8. Source Capacity

Identified Deficiency: BBWC is unable to meet source capacity requirements according to the method outlines in CCR, Title 22, Section 64554.

Proposed Corrective Action: BBWC will contract with a professional engineering consultant to conduct well tests of its groundwater sources and review its surface water capacity to determine necessary steps to increase its source capacity is in accordance with current regulations.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $25,000

4.9. Records

Identified Deficiency: BBWC must begin storing records for all preventative maintenance programs including system flushing, valve exercising, and full tank inspections.

Proposed Corrective Action: BBWC has begun a more diligent record keeping program. BBWC maintains a log of all preventative maintenance items performed on the water system including the date, location and nature of the action performed. Additionally, BBWC will start developing their own forms and checklists when performing tests and water samplings based on best practices recommended by industry standards and public entities. All records will be organized, stored in a separated file cabinet, and easily accessible when necessary.

Proposed Year for Corrective Action to be Complete: Now

Total Estimated Cost: N/A

4.10. Operator Staffing

Identified Deficiency: DDW recommends BBWC add additional certified operators to ensure coverage at the treatment plant and to complete preventative maintenance. DDW also recommends BBWC add an additional T3 treatment operator to ensure a certified chief operator is available at all times.

Proposed Corrective Action: The distribution system is classified as a D3 water system, but the treatment plant is classified by DDW as a T2 treatment facility. It is unclear why DDW is recommending an additional T3 treatment operator. BBWC will evaluate contracting for at least one more full time and certified D3, T2 operator to ensure that at least one chief operator is available at all times for the distribution system and treatment plant. BBWC will also look into the financial feasibility of hiring additional staff and contracting out overhead staff duties.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: N/A

4.11. Emergency Response Plan

Identified Deficiency: DDW recommends BBWC create an updated Emergency Response Plan.

Proposed Corrective Action: BBWC will contract with a professional engineering consultant to prepare an emergency response plan in compliance with current regulatory standards.

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: $20,000

Summary of Corrective Actions

Order of Hazard:
A. Critical Health Hazard
B. Serious Health Hazard
C. Potential Health Hazard
D. System or Operational Defect Resulting in Poor Waterworks Practice

Deficiency Identified	Order of Hazard	Date to Address Deficiency	Proposed Corrective Action			
			Description	Schedule	Cost	Memo Section Reference
SOURCES						
Well 4 Chlorination	A	Plan by 3/10/19 Completed by 5/20/19	Temporary chlorination system already installed; long term injection system to be completed by end of 2020	2020	$253,900	3.1
Corvin Creek Intake Sedimentation Tank	C	July 10, 2020	Bypass and retire sedimentation tank	2022	$15,800	3.2
Jamison Intake 1 Sedimentation Tank	C	July 10, 2020	Bypass and retire sedimentation tank	2021	$15,800	3.3.1
Jamison Intake 2 Screen	C	March 10, 2019	Install a secure screen	2021		
Jamison Intake 2 Transmission Line	C	March 10, 2019	Install 700-ft of 6-inch PVC or HPDE raw water main	2021	$95,500	3.3.2
Jamison Intake 1 Transmission Line	C	March 10, 2019				
Jamison Reservoir as a Surface Water Source	N/A	Now	BBWC to cease using Jamison Reservoir as a source of raw water	Now	-	4.1
Jamison Reservoir Cross Connection	A	March 10, 2019	Cut & Cap pipes to eliminate cross connection	2019	$22,200	3.3.3
BOOSTER STATIONS						
Galleon Heights Booster Station Housing	C	Sept 10, 2019	Replace wooden building	2021	$125,200	3.7
Galleon Heights Booster Pump Plan	D	Sept 10, 2019	Pumps will be replaced with more appropriately sized pumps			
Tradewinds Booster Station Waterlogged Pressure Tanks	C	Dec 31, 2019	Replace the bladder in the existing tanks and return to service			
Tradewinds booster Station Piping and Valving Corrosion	D	Dec 31, 2019	Clean existing piping and recoat	2021	$136,400	3.8.2
Tradewinds Booster Station Generator	C	March 10, 2019	Generator has been repaired and is back in service			
STORAGE						
Galleon Tank Vent Screen	C	March 10, 2019	# 24 Mesh vent screen already installed			
Galleon Tank Roof Access Hatch	D	March 10, 2019	Hatch gasket already installed	2021	$61,400	3.8.1
Galleon Tank Overflow	D	March 10, 2019	Include a DOSA assembly with storm drain and drain away from tank			
Robin Hood Bolted Steel Tank Roof Hatch Seal	D	March 10, 2019				
Robin Hood Bolted Steel Tank Vent Screen	D	March 10, 2019	Retire the existing Horizontal Robin Hood tank and replace with a 6-inch regulator and 2-inch bypass regulator	2019/2023	$130,800	3.6
Robin Hood Bolted Steel Tank Drain	C	During Next Rehab				
Robin Hood Bolted Steel Tank Removal/Replacement	A	March 20, 2019				
Hill House Tank Site	N/A	May 10, 2019	Vegetation cleared	Completed	-	3.4
Hill House Tank Cross Connection Verification	D	April 10, 2019	Verified that no cross connection exists	Completed	-	3.4
China Grade Tank Connection Verification	D	Written verification by April 10, 2019	Verified that no cross connection exists	Completed	-	3.9

Deficiency Identified	Order of Hazard	Date to Address Deficiency	Proposed Corrective Action			
			Description	Schedule	Cost	Memo Section Reference
China Grade Tank Roof Lid Lock	D	March 10, 2019	Roof lid lock installed	Completed	-	3.9
Rancho Dia Tank Rehabilitation/Replacement Plan	A	Rehabilitation/ Replacement Plan by May 10, 2019	Replace Rancho Dia Tank with 10,000 gallon polyethylene tank with seismic anchorage	2019	$74,300	3.10
Rancho Dia Tank Interim Operation Requirements	N/A	Immediately				
Rancho Dia Tank Vent Screen	A	February 10, 2019				
Rancho Dia Tank Site	D	May 10, 2019				
Rancho Dia Tank Leaks	C	March 10, 2019				
Rancho Dia Tank Cleaning	B	June 10, 2019				
Oberst Tank Replacement Plan	A	May 10, 2019	Replace Oberst Tank with 10,000 gallon polyethylene tank with seismic anchorage	2019	$64,600	3.11
Oberst Tank Roof Vent Screen	D	January 30, 2019				
Bloom Grade Tank Ownership Status and Fence Removal	B	Written verification of ownership status by April 10, 2019	BBWC working with property owner to verify	2019	-	3.12
Bloom Grade Tank Cross Connection Verification	C	Written verification by April 10, 2019	Confirmed no cross connection present	Completed	-	3.12
Bloom Grade Tank Drain	C	September 10, 2019	Sample tap and drain to be installed with other site improvements	2021	$23,500	3.12
Bloom Grade Tank Sample Tap	D	May 10, 2019				3.12
Storage Tank Inspections	C	Now	BBWC will increase its tank inspection efforts to meet DDW requirements	Ongoing	-	4.2
SURFACE WATER TREATMENT						
Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement	A	Plan by 4/10/19 Completed by 2/10/20	BBWC will consult with a professional engineering firm to prepare a Water Treatment Facilities Plan and provide long-term recommendations	2020	$50,000	4.3
Updated Surface Water Treatment Plant Operations Plan	B	6/10/19	BBWC will consult with a professional engineering consultant to updated SOPs and Operations Plan after improvements to existing Microfloc treatment plant are completed by WesTech® (see Section 4.3)	2021	$25,000	4.4
Settled Water Turbidity	N/A	Now				
pH Monitoring	C	4/10/19				
Daily pH and Temperature Monitoring	C	Immediately				
Chlorine Residual Grab Sampling and Reporting	N/A	Now				
Clarifier and Filter Loading Rates	N/A	Feb 2019				
Jamison WTP Filter Unit Clarification Media Screen	A	3/10/19	Repair filters, replace PLCs, install EPA approved total chlorine analyzer, clean building and repair holes, replace existing turbidimeter	2020	$236,300	3.5
Online Chlorine Residual Analyzer	A	3/10/19				
Jamison WTP Building	B	9/10/19				
Jamison WTP Cleaning	A	2/10/19 & Continuously				
Jamison WTP Turbidimeter	B	11/10/19				
Distribution System Chlorine Residual	A	Immediately	Increased system chlorine residual	Completed	-	4.5

Deficiency Identified	Order of Hazard	Date to Address Deficiency	Proposed Corrective Action			
			Description	Schedule	Cost	Memo Section Reference
Filter Effluent Line Cross Connection Evaluation	D	7/10/19	BBWC confirmed that no cross connection exists (JIM TO CONFIRM)	Completed	-	-
Backwash Tank Cross Connection(s)	C	4/10/19	BBWC confirmed that no cross connection exists (JIM TO CONFIRM)	Completed	-	-
October 9, 2018 Chlorine Residual	N/A	2/15/19	Completed and mailed to DDW on XX/XX/XX	Completed	-	-
Jamison WTP Cats	B	2/20/19	BBWC to develop a comprehensive long-term Vector Control Plan		See Section 3.5	
Jamison WTP Chemical Storage Tank Water Line	C	5/10/19	BBWC to install new chemical storage platform and containment	2020	$149,000	3.5.1
Jamison WTP Chemical Storage Tanks and Storage	B	5/10/19				
Cross Connection Control Operating Rules	A	6/10/19	BBWC to prepare new Rules and Standards for Cross Connection in the service area for approval by CPUC; after which BBWC will complete a system wide survey and inventory backflow equipment	2019	$25,000	4.6
Cross Connection Control Survey	A	10/10/19				
Backflow Prevention Assembly Inventory	A	6/10/19				
OTHER						
2017 Consumer Confidence Report Certification	C	2/15/2019	BBWC provided to DDW on XX/XX/XX	2019	-	-
Watershed Sanitary Survey	C	12/31/2019	BBWC to engage professional engineering consultant to prepare	2021	$25,000	4.7
Source Capacity	B	12/31/2019	BBWC to engage professional engineering consultant to prepare	2020	$25,000	4.8
Records	D	Now	BBWC working to improve recordkeeping procedures	Ongoing	-	4.9
Overdue 2018 Source Monitoring	C	1/31/2019	BBWC provided to DDW on XX/XX/XX	2019	-	-
LIST OF RECOMMENDATIONS						
Photos	-	-	BBWC to prepare and provide to DDW by end of 2019	2019	-	-
Robin Hood Tank Foundation	-	-	BBWC to engage to professional engineer to evaluate as budget allows	2023	$10,000	-
Hill House Tank Foundation	-	-	Install seismic restraint system	2022	$34,200	3.4
Hill House Tank Fence	-	-	Install ~170 ft of fence, a 12-ft swing gate, and ~400 sf gravel road			
China Grade Tank Fence	-	-	Install ~145 ft of fence, a 12-ft swing gate, and ~1,000 sf gravel road	2022	$24,200	3.9
Bloom Grade Tank Fence	-	-	Install ~170 ft of fence, a 12-ft swing gate, and ~8,000 sf gravel road	2021	$48,300	3.12
Jamison WTP IFE Turbidimeter	-	-	Install a turbidimeter on the effluent end of each filter unit		See Section 3.5	
Jamison WTP Backup Turbidimeter	-	-	Purchase one backup turbidimeter		See Section 3.5	
Jamison WTP Generator	-	-	BBWC to evaluate as part of long term facilities plan		See Section 3.5.2	
Jamison WTP Site Security	-	-	Install 950 ft of fence, a 20-ft double swing gate, and a 20-ft barrier gate	2022	$119,300	3.5.2
Inactive Sources	-	-	BBWC to retire Well # 1 and evaluate Well # 2 for restoration	2023	$26,200	3.15
Isolation Valves	-	-	Install 20 line valves	2020 - 2024	$231,000	3.13
Operator Staffing	-	-	BBWC evaluating hiring/contracting additional staff	2020	-	4.10
Emergency Response Plan	-	-	BBWC to engage professional consultant to prepare	2022	$20,000	4.11
Distribution Main Replacement Plan	-	-	BBWC replacing mains as part of a long term asset management program	Ongoing	TBD	3.14
Cross Connection Specialist	-	-	Will contract with a cross connection specialist		See Section 4.6	

Commented [WJ6]: If this is complete, make a note stating that it is complete and what work was performed

Commented [WJ7]: If this is complete, make a note stating that it is complete and what work was performed

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Corrective Action Projected Costs and Schedule of Improvements

The following table is a summary of the costs and schedule for the proposed corrective actions.

Project	2019	2020	2021	2022	2023	2024	TOTAL
Well 4 Chlorination		$253,900					**$253,900**
Corvin Creek Intake Sedimentation Tank			$15,800				**$15,800**
Jamison Intake 1 Sedimentation Tank			$15,800				**$15,800**
Jamison Intake 2 Screen							
Jamison Intake 2 Transmission Line			$95,500				**$95,500**
Jamison Intake 1 Transmission Line							
Jamison Reservoir Cross Connection	$22,200						**$22,200**
Galleon Heights Booster Station Housing			$125,200				**$125,200**
Galleon Heights Booster Pump Plan							
Tradewinds Booster Station Waterlogged Pressure Tanks							
Tradewinds Booster Station Piping and Valving Corrosion			$136,400				**$136,400**
Tradewinds Booster Station Generator							
Galleon Tank Power and Level Transducer			$61,400				**$61,400**
Galleon Tank Overflow							
Robin Hood Bolted Steel Tank Roof Hatch Seal							
Robin Hood Bolted Steel Tank Vent Screen	$19,500				$111,300		**$130,800**
Robin Hood Bolted Steel Tank Drain							
Robin Hood Bolted Steel Tank Removal/Replacement							
Rancho Dia Tank Rehabilitation/Replacement Plan							
Rancho Dia Tank Interim Operation Requirements							
Rancho Dia Tank Vent Screen	$74,300						**$74,300**
Rancho Dia Tank Site							
Rancho Dia Tank Leaks							
Rancho Dia Tank Cleaning							
Oberst Tank Replacement Plan	$64,600						**$64,600**
Oberst Tank Roof Vent Screen							
Bloom Grade Tank Drain and Sample Tap			$23,500				**$23,500**

Project	2019	2020	2021	2022	2023	2024	TOTAL
Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement		$50,000					**$50,000**
Updated Surface Water Treatment Plant Operations Plan			$25,000				**$25,000**
Jamison WTP Building Repairs, Filter Unit Repairs, Chlorine Analyzer, Turbidimeters		$236,300					**$236,300**
Jamison WTP Chemical Storage Tanks and Storage		$149,000					**$149,000**
Cross Connection Control Operating Rules							
Cross Connection Control Survey	$25,000						**$25,000**
Backflow Prevention Assembly Inventory							
Watershed Sanitary Survey			$25,000				**$25,000**
Source Capacity		$25,000					**$25,000**
Robin Hood Tank Foundation					$10,000		**$10,000**
Hill House Tank Foundation							
Hill House Tank Fence				$34,200			**$34,200**
China Grade Tank Fence				$24,200			**$24,200**
Bloom Grade Tank Fence			$48,300				**$48,300**
Jamison Station Fence				$119,300			**$119,300**
Inactive Sources					$26,200		**$26,200**
Isolation Valves		$46,200	$46,200	$46,200	$46,200	$46,200	**$231,000**
Distribution Main Replacement Plan				$270,000	$270,000	$270,000	**$810,000**
Emergency Response Plan				$20,000			**$20,000**
Estimated Capital Expenditures (Present Value)	**$ 205,600**	**$760,400**	**$ 618,100**	**$ 513,900**	**$463,700**	**$316,200**	**$2,877,900**

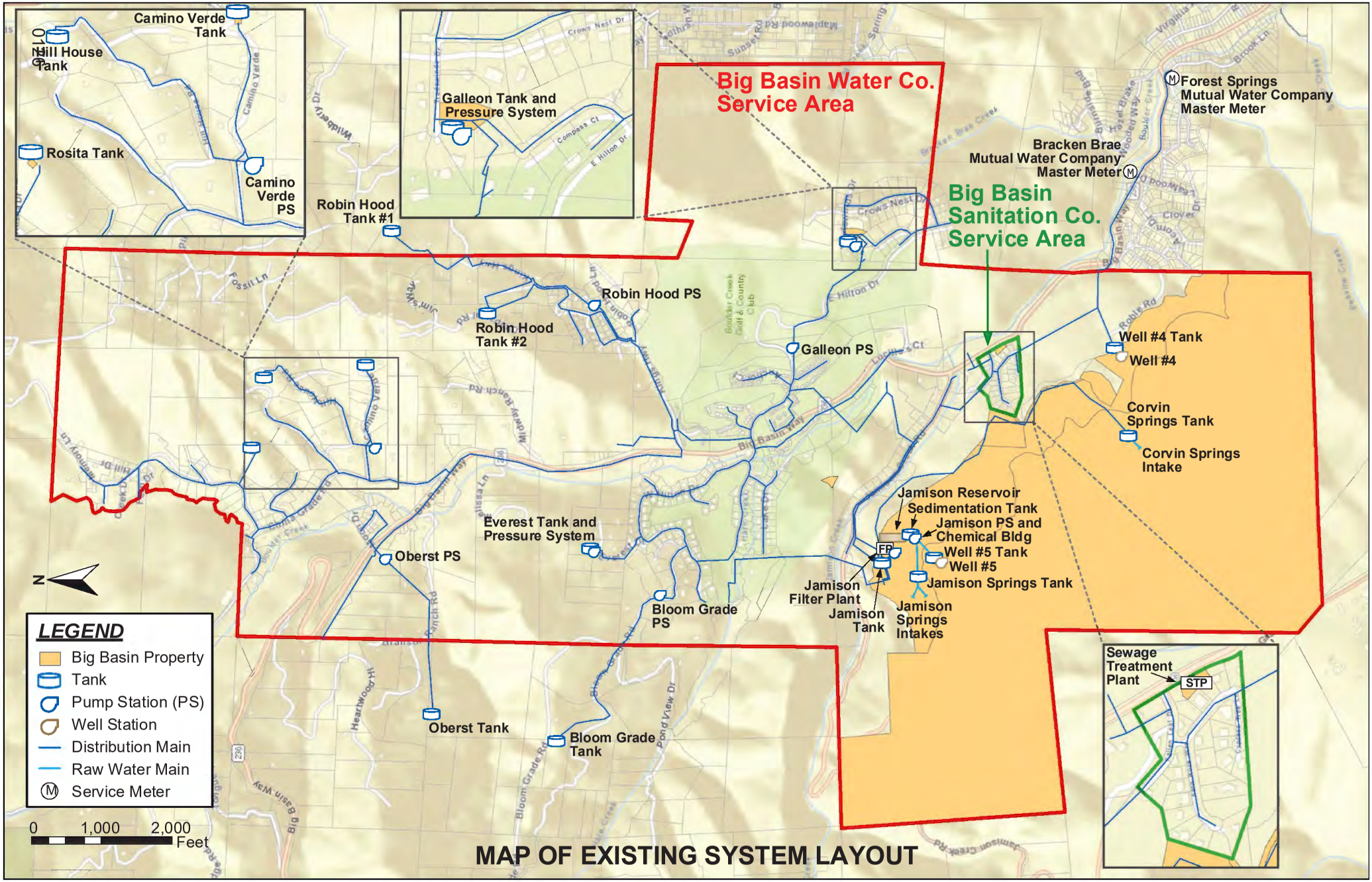
Items for Jim to address are highlighted in the DDW response document.

Photos for Jim to insert into the document:

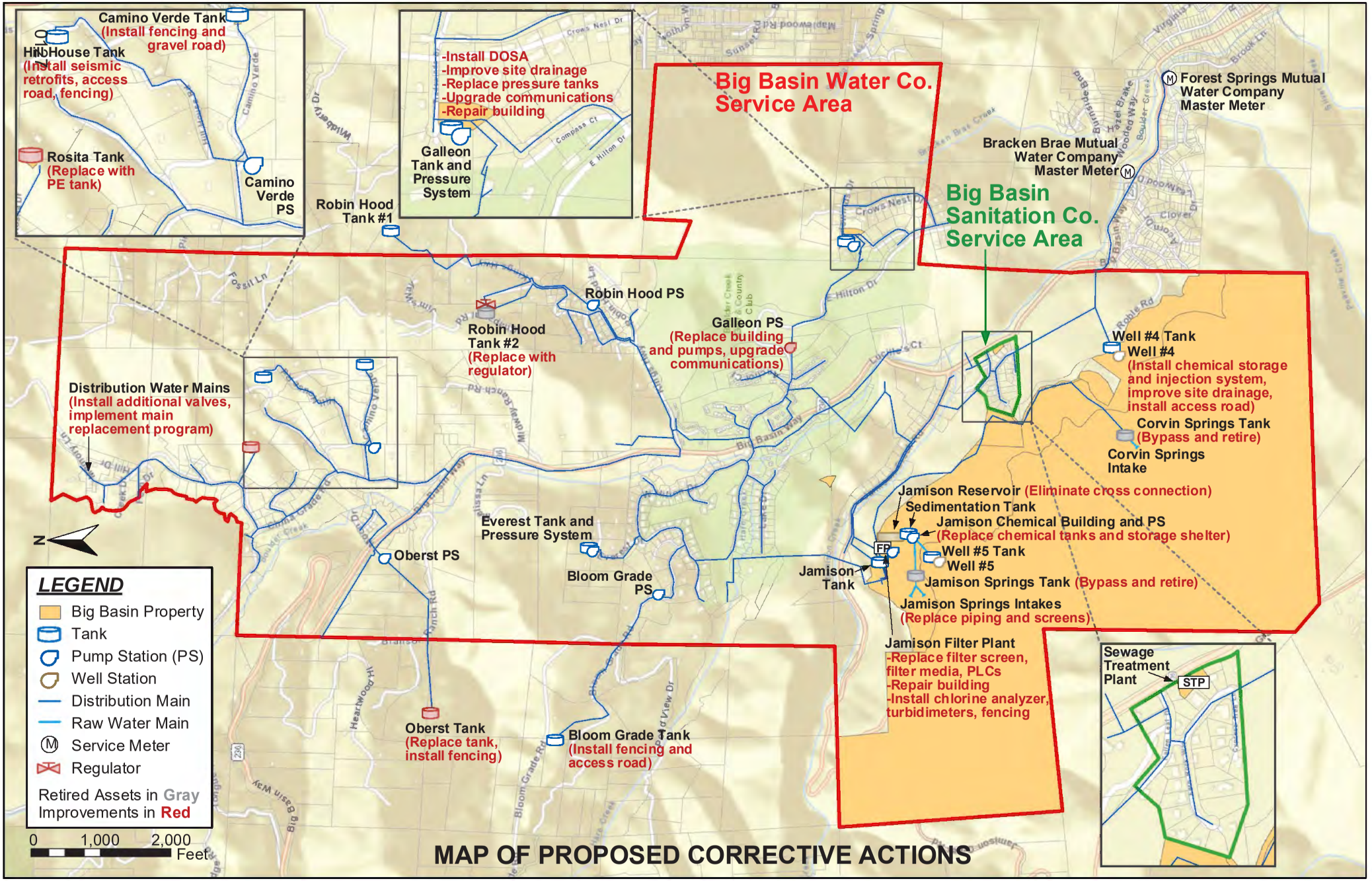
- Section 3.4, Figure 3 – Photo showing vegetation cleared around Hill House Tank
- Section 3.8.1, Figure 6 – Photo showing hatch gasket seal on Galleon Heights Tank
- Section 3.8.1, Figure 7 – Photo showing #24 mesh vent screen on Galleon Heights Tank
- Section 3.8.1, Figure 8 – Photo showing greater clearance between pipe and ground (cut and screened overflow pipe)
- Section 3.12, Figure 13 – Photo showing that there is no cross connection between Bloom Grade Tank and neighbor's tank

In Table on Page 24, for Jim to confirm and provide evidence to DDW:

- Confirm and provide evidence that there is no cross connection between the filtered water line and backwash line
- Confirm and provide evidence that there is no cross connection between backwash water storage tank and Jamison Reservoir
- Confirm that the October 9, 2018 Chlorine Residual report was sent to DDW and update table in response document
- Confirm that the 2017 Consumer Confidence Report Certification was sent to DDW
- Confirm that the overdue 2018 Source Monitoring report was sent to DDW



MAP OF EXISTING SYSTEM LAYOUT



MAP OF PROPOSED CORRECTIVE ACTIONS

EXHIBIT E

February 3, 2020

Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
bbwater197@yahoo.com

Dear Mr. Moore:

POWER OUTAGE RESPONSE PLAN REQUIRED
BIG BASIN WATER COMPANY (SYSTEM NO. 4410001)

California public water systems, with oversight by the State Water Resources Control Board – Division of Drinking Water (Division), are required to provide a reliable and adequate supply of pure, wholesome, healthful, and potable water (California Health and Safety Code, Section 116555 (a)(3)). Failure to provide a reliable and adequate water supply of potable water is a significant public health risk due to water quality deterioration, back-siphonage conditions creating potential contamination pathways, the lack of firefighting water, etc.

During the 2019 Public Safety Power Shutoff (PSPS) program administered by Pacific Gas and Electric (PG&E) in Northern California, electricity was shut off in targeted geographic areas when heightened fire risk weather conditions were forecasted. During two PSPS events in October 2019, even with advance notice from PG&E that power shutoffs were imminent, Big Basin WC was not prepared and ultimately experienced a water outage on October 28-29, 2019, which prompted Big Basin WC to issue a precautionary boil water notice in conjunction with the Division.

Big Basin WC must avoid future water outages due to scheduled or unscheduled power outages by preparing and following a power outage response plan, that includes but is not limited to the following elements:

1. The protocol for preparing for a planned power shutoff including filling storage tanks, site visits, water conservation notification, etc. More information is included in the attached PSPS water system guidance document.

2. How backup power will be obtained before a planned power outage and at the onset of an unplanned power outage. The source of the backup power must be identified along with applicable contacts.

3. The process for transporting and installing backup power at the locations identified as critical during a power outage.

4. Contact information for neighboring water systems, the Division of Drinking Water, Santa Cruz County Environmental Health, emergency response networks, and other contacts needed during a power outage.

5. The procedure for initiating and distributing public notification in accordance with California Code of Regulations, Title 22, Sections 64663 and 64665.

The power outage plan must be submitted to the Division for approval no later than **February 28, 2020.**

If future water outages occur due to negligent preparation by the water system, the Division will issue enforcement.

If you have any questions, please contact Jonathan Weininger at (831) 655-6932 or jonathan.weininger@waterboards.ca.gov, or me at (831) 655-6934.

Sincerely,

Jan Sweigert

Jan R. Sweigert, P.E.
District Engineer, Monterey District Office
Northern California Field Operations Branch
Division of Drinking Water

Attachments: PSPS Preparation Suggestions

Email cc: Santa Cruz County Environmental Health Department

CPUC Water Division
Bruce Deberry, CPUC Water Division Bruce.deberry@cpuc.ca.gov
Adam Thaler, CPUC Water Division adam.thaler@cpuc.ca.gov

Attachment: PSPS Preparation Suggestions

This message is for water systems in Santa Cruz County regulated by the State Drinking Water Program – Monterey Office.

During planned power shutdowns, critical components of your water system that rely on electrical power may be affected by the shutdown. The Division of Drinking Water's Water Security Unit has put together the following list of recommended actions for WSs to take for preparation for the PSPS:

- Top-off all reservoirs so to maintain service with gravity throughout the PSPS, if it should occur.
- Configure the distribution system to be able to serve with gravity (turn on/off strategic valves).
- Evaluate use of any available interconnections and intertie
- Acquire and position/preposition emergency generators where needed.
- Contact their utility partners and networks for awareness and determine availability of assistance if needed (e.g., CalWARN and CUEA).
- Issue conservation notices to customers so to reduce unnecessary demand and maintain supply storage.
- Establish contacts with the local and County emergency management services (EOC) to report situation status and resources needs if needed.
- Establish contact with regulatory agency to report situation status and resources needs if needed.
- Establish contact with the power utility (account manager).
- Use the Water Quality Emergency Notification Plan when needed.
- Prepare and have ready the public notifications, e.g., boil water notices to use as needed.
- Ascertain contacts with assistants for public notification, e.g., public information officer, media, County EOC public information officer, etc.

In the event that a portion or all of your water system experiences a water outage, please immediately contact the Division of Drinking Water at (831) 655-6939 or refer to your Emergency Notification Plan.

EXHIBIT F

State Water Resources Control Board

Division of Drinking Water

February 25, 2020

Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
bbwater197@yahoo.com

Dear Mr. Moore:

ANNUAL SURFACE WATER TREATMENT PLANT EVALUATION
BIG BASIN WATER COMPANY (SYSTEM NO. 4410001)

Representatives from the State Water Resources Control Board – Division of Drinking Water (Division) conducted an annual inspection of Big Basin Water Company's (Big Basin WC) surface water treatment plant on January 17, 2020. The Division acknowledges the work done by Big Basin WC since the previous surface water treatment plant inspection, but the treatment plant remains in unsatisfactory overall condition. There are many deficiencies that remain unaddressed and must be addressed by the timelines listed in the attached surface water treatment plant evaluation.

Written acknowledgement of this annual surface water treatment plant evaluation and the deficiency list items listed on Pages 9-10 of the attached evaluation is due by **March 30, 2020.** Please include a progress report on completed deficiencies and a timeline for completing all remaining deficiencies.

If you have any questions, please contact Jonathan Weininger at (831) 655-6932 or jonathan.weininger@waterboards.ca.gov, or me at (831) 655-6934.

Sincerely,

Jan Sweigert

Jan R. Sweigert, P.E.
District Engineer, Monterey District Office
Northern California Field Operations Branch
Division of Drinking Water

Attachments: Annual Surface Water Treatment Plant Evaluation

Email cc: Santa Cruz County Environmental Health Department
Bruce Deberry, CPUC Water Division Bruce.deberry@cpuc.ca.gov
Adam Thaler, CPUC Water Division adam.thaler@cpuc.ca.gov

Bcc: Jonathan (bcc only), J. Sweigert, 4410001 Correspondence, chron

Permits

☐ ECM – Vilma – Inspections → Sanitary Surveys → Letter and Reports

☐ Vilma – Scanned Copy saved in Correspondence → Scanned Documents Folder

☐ Jonathan - Move from drafts to permit folder.

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER
SURFACE WATER TREATMENT PLANT EVALUATION
(January – December 2019)

System No.& Name: **4410001 Big Basin Water Company**
Name of Water Treatment Plant: **Jamison Surface Water Treatment Plant (SWTP)**
Inspection Date: **January 17, 2020**
Treatment Plant Classification: **T2**
Chief Operator(s): **Jim Moore**
Hours of Operation: **As needed, up to 365 days a year. Big Basin WC must have an operator on site each day of operation due to chlorine grab sampling requirements and lack of reliability features.**
Requirement: Operation without frequent interruptions (Title 22 CCR, Section 64658(b)(13))

Sources of Information:

1) Files, discussion, and monthly reporting
2) State Water Resources Control Board - Electronic Water Rights Information Management System http://ciwqs.waterboards.ca.gov/ciwqs/ewrims/EWServlet?Redirect_Page=EWWaterRightPublicSearch.jsp&Purpose=getEWAppSearchPage
3) State Water Resources Control Board, June 2018, *California Surface Water Treatment Rule Alternative Filtration Technology Summary* https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/dwdocuments/2018/aft_contact_sum_tables.pdf

A. SOURCE OF SUPPLY

Table 1: Raw Water Evaluation		
Raw water Sources:	**Corvin Creek (4410001-001). Roughly 50 gpm.**	
	Jamison Springs - Two intakes (4410001-009). Roughly 30 gpm combined flow.	
	Well 05 Horizontal Well (4410001-010). Roughly 13-35 gpm.	
Raw Water Transmission Line(s):	**Corvin Creek: 1940s era steel pipe. The transmission lines from the surface intakes and Well 05 are reportedly above ground PVC to the Jamison WTP, but the Division has not inspected the full length of the transmission lines.**	
Range of recent treatment plant flow?	**<75 gpm to 100 gpm**	
Date of last watershed sanitary survey:	**2006**	
Does the watershed sanitary survey report adequately address the following:		
Physical and hydrogeological description of the watershed		**Yes**
A summary of source water quality monitoring data		**Yes**
A description of activities and sources of contamination		**Yes**
A description of any significant changes that have occurred since the last survey which could affect the quality of the source water		**Yes**
A description of watershed control and management practices:		**Yes**
An evaluation of the system's ability to meet surface water treatment regulations:		**Yes**
Recommendations for corrective actions: **None. The watershed is owned by Big Basin WC and most vulnerable to contamination from nearby septic tank leach fields, although there are none directly on the watershed.**		
Water Rights: **Yes, Big Basin WC has appropriative rights licensed by the State Water Resources**		

Table 1: Raw Water Evaluation	
Control Board Division of Water Rights. Big Basin WC is allowed 0.37 cfs (166 gpm) of direct diversion. Big Basin WC is allowed 4.6 AFY of storage for a total of 231 AFY of beneficial use of the four streams tributary to Jamison Creek.	
Raw bacteriological monitoring frequency: *Surface water treatment plant raw water supply is to be monitored for total coliform and either fecal coliform or E.coli bacteria using density analysis no less than once per month. (CCR 64654.8 (b(1)).*	**Big Basin WC is required to collect raw surface water total coliform and E. coli sampling at least monthly and report the results to the Division by the 10th day of the following month.** **Sample results are summarized in Table 2.**
Cryptosporidium monitoring for Long Term Enhanced Surface Water Treatment Rule (LT2):	**Big Basin WC completed the second round of LT2 monitoring and is classified as a Bin 1 water system, which means no additional filtration credit is required based on E. coli results.**
Discussion and Appraisal: Big Basin WC is overdue for a five year watershed sanitary survey update. Big Basin WC must complete a watershed sanitary survey and provide a summary to the Division by **December 31, 2020**. The watershed sanitary survey must be updated and then submitted to the Division every five years. Big Basin WC has stated that it has used Jamison Reservoir as a raw a water source a few times over the past 10 years. Big Basin WC is not permitted to use the Jamison Reservoir, a 3 MG artificial reservoir primarily fed by overflow from surface water sources, as a surface water source. The reservoir is not a permitted raw surface water source and cannot be used as a surface water source, without approval by the Division through issuance of a water system permit amendment.	

***Table 2: Raw Water Bacteriological Summary* – Individual Sources**
(Reported as Monthly Value in MPN/100 mL)

Month	Well 5		Jamison Springs		Corvin Creek	
	Total Coliform	E. Coli	Total Coliform	E. Coli	Total Coliform	E. Coli
Dec-19	<1.0	<1.0	224.7	11	75.4	5.2
Nov-19	1	<1.0	105	9.7	93.3	13.4
Oct-19	13.4	<1.0	488.4	33.6	129.1	33.6
Sep-19	<1.0	<1.0	290.9	4.1	193.5	35.9
Aug-19	<1.0	<1.0	140.1	9.7	325.5	98.7
Jul-19	<1.0	<1.0	101.7	1	206.4	34.5
Jun-19	<1.0	<1.0	248.1	<1.0	145.5	6.3
May-19	1	<1.0	137.4	3.1	98.5	1
Apr-19	<1.0	<1.0	150	5.2	6.30	<1.0
Mar-19	<1.0	<1.0	150	36	20	4
Feb-19	<1.0	<1.0	137.6	18.9	74.9	18.7
Jan-19	<1.0	<1.0	365.4	59.1	59.1	4.1

B. TREATMENT TECHNOLOGY

Table 3: Treatment Plant Characteristics	
Type of Treatment:	**Trident Microfloc upflow contact clarification /filtration system. First stage – upflow clarification. Second stage: mixed media filtration with anthracite coal, silica sand, and high density sand.**

Table 3: Treatment Plant Characteristics	
Approved Technology?	**Yes, the Trident Microfloc contact clarification filtration system is listed in the Division's approved alternative technologies listing.**
Year Constructed:	**1993**
Filtration Removal Credit: *Requirement: 3.0 log Giardia and 4.0 log Virus removal through both filtration and disinfection.*	**2.5 log *Giardia*, 2.0 log Virus, and 2.0 log *cryptosporidium* removal with a maximum clarifier loading rate of 10 gpm/ft^2 and maximum filter loading rate of 5 gpm/ ft^2 , Big Basin WC must comply with these loading rates by measuring flow from each filter unit and calculating loading rates. Big Basin WC must notify the Division if the clarifier and/or filter loading rate is exceeded.**
Pre-filtration	**None**
Number of filtration units (*Multiple filter units are required.(Section 64659(a)(4))*	**2**
How is filtration rate controlled?	**Automatic**
Filtration rate at maximum flow	**75 gpm for each unit**
Is there filter-to-waste capability? *Required for new treatment plants by Section 64658(b)(8)*	**Yes**
Is the filter backwash water recycled?	**No – all backwash water is sent to a backwash pond and not recycled.**
Treatment Plant Chemicals	
Disinfectant?	**HASA Chlor, an NSF 60 certified 12.5% sodium hypochlorite. The chlorine is diluted with system water at different dilutions depending on the season. The operations plan must include a description of the dilution ratio.**
Supply of disinfectant on hand?	**30 gallons, which lasts about two weeks.**
Emergency plan of action for disinfection failure:	**2006**
Coagulant:	**Dry Aluminum Sulfate, Chemtrade Solutions. NSF 60 certified.** **Aluminum Sulfate NSF 60 Certification Notes: Max dose = 400 mg/L. The aluminum level in the finished drinking water must not exceed 2 mg/L.**
Coagulant Dosage Calculations:	**According to Big Basin WC's Jamison WTP operations plan, dated 1993, the alum dose is calculated at 4 mg/L. The operations plan states that the dose is adjusted based on the turbidimeter, however, the treatment plant turbidimeter is no longer connected to the dosing pump, so the operations plan needs to be updated. Big Basin WC must begin performing jar testing to determine optimal coagulant dosages.**
Chemical Storage Evaluation: Chemical storage tanks were replaced since the last inspection and are located in new locked plastic sheds. Chlorine and alum are stored in separate sheds.	

C. PERFORMANCE STANDARDS

Table 4: Filtration and Disinfection Performance
Filter effluent turbidity requirements:

1. The filtered water turbidity must be equal to or less than 0.2 NTU in 95% of measurements taken each month. **2. The filtered water turbidity must not exceed 2.0 NTU at any time.** **3. If using turbidity grab sampling, the filtered water must not exceed 1.0 NTU in more than two samples taken consecutively while the plant is in operation.** **4. When any individual filter is placed back in service, the filtered water turbidity of the effluent from that filter must not exceed: 5.0 NTU, 1.0 NTU in at least 90% of the interruption events during any consecutive 12-month period, and 0.2 NTU after the filter has been in operation for four hours.**	
Maximum combined filter effluent turbidity level during the past 12 months	**0.2 NTU (February 2019)**
Number of times turbidity exceeded 0.1 NTU in combined filter effluent for more than four hours during the past 12 months	**All months online in 2019 except November.**
Maximum individual filter effluent turbidity level during the past 12 months	**Individual filter effluent turbidity is not measured.**
Maximum turbidities when placing filters on line after backwash or other interruption	**Unknown**
Minimum residual in the water delivered to the distribution system during the past 12 months (*The effluent residual cannot be less than 0.2 mg/l for more than four hours in any 24 hour period (Section 64654(b)(1)))*	**0.4 mg/L (October 2019)**
Discussion and Appraisal: In 2019, the second filter unit was emptied and new upflow clarifier media was installed. The gaskets were replaced and media breakthrough is no longer observed. Big Basin WC must begin collecting daily settled water turbidity (grab sample from the clarifier) measurements and reporting the results to the Division within the monthly surface water treatment plant report. Big Basin WC should target a settled water turbidity of no more than 2.0 NTU.	

The table below summarizes the past 12 months of filtration effectiveness:

Table 5: Raw and Treated Water Turbidity Summary

Month	Monthly Average Peak Raw Water Turbidity (NTU)	95th Percentile Treated Water Turbidity (NTU)	Average Turbidity Reduction (in %)
Dec-19	1	0.13	91.1
Nov-19	1	0.09	91.5
Oct-19	1	0.11	91.1
Sep-19	1	0.15	89.9
Aug-19	1	0.16	87.9
Jul-19	1.4	0.16	90.7
Jun-19	1.2	0.16	88.3
May-19	1.1	0.16	86.4
Apr-19	Offline	Offline	Offline
Mar-19	Offline	Offline	Offline
Feb-19	1	0.12	86.5 %
Jan-19	0.7	0.12	88.4 %

Requirement: The percent reduction of monthly average raw water turbidities must be greater than 80% OR jar tests or pilot testing may be used to show that optimum removal is being achieved (Section 64660(b)(9)) OR the monthly average effluent turbidity must be less than 0.1 NTU (Requirement for low turbidity raw water)

D. DESIGN AND OPERATIONS STANDARDS

Table 6: Operations and Maintenance	
Describe filter maintenance:	**Media is inspected daily by operators.**
Describe media change out:	**According to Big Basin WC, the media was replaced about 10 years ago, but the Division does not have media replacement records.**
Describe backwash cycle:	**Backwash is initiated by pressure loss. Each filter unit typically backwashes between daily and every three to four days.**
Backwash Water:	**A 15,000 gallon steel storage tank stores system water for backwashing the filter units.** **Original drawings show that in the past, this tank was the contact time tank and show a direct cross connection between the tank and the Jamison Reservoir. Big Basin WC must verify this cross connection does not exist.**
Recycled Backwash:	**No, all backwash water is sent to an adjacent sediment pond**
Filter Cleaning Procedure:	**Filters have not been cleaned for at least 10 years.**
Disinfection Byproduct Precursor Removal:	**No dedicated treatment, but overall values of TTHMs and HAA5s are below their respective MCLs in the distribution system.**
Discussion and Appraisal: The filter units need to be taken offline for a full evaluation of the clarification media, filter media, filter bed and coating condition, and evaluation of valves and piping. The filter units need a complete rehabilitation or replacement.	

E. RELIABILITY AND MONITORING

Table 7: Summary of Treatment Plant Equipment	
Turbidity Monitoring Equipment	**A single HACH 1720E is used for turbidity compliance on the combined filter effluent line. The turbidimeter as installed in 2006. The viewer, a HACH sc100, was swapped with one from Forest Springs IMA in November 2018.** **The turbidimeter's accuracy is unknown, so a turbidimeter manufacturer rep must inspect, calibrate, and ensure the turbidimeter is accurate.**
Chlorine Residual Monitoring	**Big Basin WC is required to collect at least three daily chlorine residual grab samples at the treated water line sample tap, which is located about 460' downstream of the contact time tank outside of the chemical injection shed. Big Basin WC uses a handheld HACH Pocket Colorimeter using free chlorine DPD packets for chlorine residual monitoring. Until a chlorine analyzer is purchased and installed, Big Basin WC must continue to collect three chlorine residual grab samples every day. Big Basin WC must also properly maintain and verify its colorimeter and ensure all DPD packets are not expired.** **Big Basin WC is required to purchase and install a chlorine residual analyzer due to past violations of grab sampling requirements. The Division requested an approved chlorine residual analyzer to be installed by April 30, 2018, but Big Basin WC has not purchased and installed an analyzer to date.**
Temperature and pH Monitoring:	**Temperature is monitored using an analog thermometer in a bucket of treated water. pH is monitored using pH test strips. Big Basin WC must use a pH probe or other EPA approved pH testing method.**

Table 7: Summary of Treatment Plant Equipment	
	Big Basin WC has assumed a max pH of 8.0 and minimum temperature of 10 to 12 Celsius for monthly reporting, which has not been verified on a regular basis as worst case conditions. **Big Basin WC must report a daily pH and temperature value from the water leaving the treated water contact time. After one year of daily pH and temperature monitoring, Big Basin WC can request to use worst case assumptions.**
Flow Measurement:	**The Division does not have a list of flow meters at the Jamison WTP.**
Standby equipment available?	**Big Basin WC has an extra diaphragm pump available for chemical injection capabilities. Big Basin WC should have an extra turbidimeter available.** *Required by Section 64659(a)(2) Standby replacement equipment available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection*
Standby Power:	**None. The Division recommends Big Basin WC have an onsite generator at the treatment plant.**
Site Security:	**The treatment plant is located inside a locked wood building. The chemical storage and dosing room is located inside a locked building at the entrance to the treatment plant property. The treatment plant location does not include a gate or fence. The Division recommends a gate is installed at the front of the plant and recommends the site is fenced.**
Discussion and Appraisal: Big Basin WC needs to provide an inventory of all raw and treated water flow meters. The Division recommends Big Basin WC install an additional turbidimeter so there are turbidimeters on each filter unit. A backup turbidimeter should be available. Big Basin WC is overdue in purchasing and installing a chlorine residual analyzer. Big Basin WC must begin sending the Division all three daily chlorine residual results including the date and time taken with the monthly surface water treatment plant report.	

Table 8: Monitoring Equipment Characteristics					
Parameter	**Location**	**Continuous Monitoring**	**Recording**	**Alarm/ Shutdown**	**Comments**
Flow	Influent	**No**	**No**	**No**	
	Individual Filter Effluent	**No**	**No**	**No**	
	Combined Filter Effluent	**No**	**No**	**No**	
Turbidity	Raw	**No**	**Grab**	**No**	
	Individual Filter Effluent	**No**	**No**	**No**	
	Combined Filter Effluent	**Yes**	**Chart Recorder**	**Unknown**	
Chlorine Residual	Leaving Filters	**No**	**Grab**	**No**	
	Leaving Clearwell	**No**	**Grab**	**No**	
Temperature	Leaving Clearwell	**No**			
pH	Leaving Clearwell	**No**			
Discussion and Appraisal: Big Basin WC must provide a list of current turbidimeter alarms/shutdowns. Big Basin WC does not have online capabilities or real time alarms/shutdowns, so the plant must always be staffed by a certified operator. If a chlorine failure occurs during the night, the failure will not be caught					

Table 8: Monitoring Equipment Characteristics					
Parameter	**Location**	**Continuous Monitoring**	**Recording**	**Alarm/ Shutdown**	**Comments**
until the morning. Therefore, Big Basin WC must not operate the plant without an operator onsite.					

F. OPERATIONS AND RECORDS

Table 9: Operations	
Number and level of certified operators:	**Two, Jim Moore is the chief operator with a T3 certification and Damian Moore is the shift operator with a T2 certification.**
Date of Operations Plan:	**November 1993 and revised in March 2006, but not approved.**
Has the plan been approved by the Division?	**Revised 2006 Operations Plan has not been approved by the Division.**
Describe any changes needed to the plan	**The operations plan needs to be updated to address various changes in the water system and treatment plant since 1993 including monitoring equipment, grab sampling, alarms, alum and chlorine dosing, etc.**
Describe the treatment records maintained:	**Big Basin WC stores treatment plant records.**
Does the water system consistently send monthly treatment plant reports	**Yes**
Does the monthly treatment report include all required information?	**Yes**
Discussion and Appraisal: Big Basin WC must update its operations plan by **December 31, 2020.**	

G. CONTACT TIME EVALUATION

Source of Information: **The CT Tables used are found in Appendix E in the EPA *Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources*, 1990.**

*Table 10: Required Log Removal for Alternative Technology – Trident Microfloc**			
	Giardia	Virus	Cryptosporidium
Required Total Log Reduction	3.0	4.0	2.0
Reduction Log Credit for Trident Microfloc*	2.5	2.0	2.0
Required Log Reduction with Disinfection	**0.5**	**2.0**	**0.0**

* As determined by Division evaluation and listed in alternative technology listing at http://www.SWRCB-DDW.ca.gov/certlic/drinkingwater/Pages/Publications.aspx

TREATMENT PLANT FLOWPATH

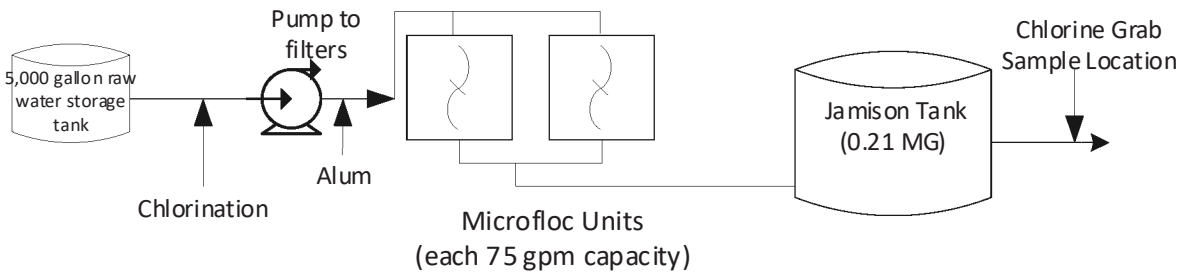


Table 11: Calculations	
Jamison Tank	
The Jamison Tank is located at the Jamison WTP and provides chlorine contact time. The tank has a capacity of 210,000 gallons.	
Height of Walls	24’
Diameter of Clearwell	38.6’
Minimum Water Level	Use 11’ based on past surface water treatment plant reports. Big Basin WC must provide its low tank level alarm.
Minimum volume of clearwell	96285 gal
T_{10}/T (baffling factor)	0.1 (default baffling factor)
Available Volume	9628.5 gal
Pipe between chlorine injection and treatment	
Length	400 feet
Diameter	4”
T_{10}/T (baffling factor)	1.0 (default baffling factor for pipes)
Volume	261 gal
Pipe between Jamison Tank and Chlorine grab sample location	
Length	400 feet
Diameter	6”
T_{10}/T (baffling factor)	1.0 (default baffling factor for pipes)
Volume	587 feet
Total Pipeline Volume	261 + 587 = 848 gal
Contact Time Calculation	
Total Volume:	848 gal (pipelines) + 9628.5 gal (tank) = 10476.5 gal
Peak Flow Rate:	300 gpm (capacity of Galleon boosters, which draw water from the Jamison WTP)
Residence Time:	10476.5 gal / 300 gpm = 34.92 min
Contact Time Achieved	34.92 min * 0.7 (typical chlorine residual) = 24.44 min-mg/L
Required Log Removal	
pH (highest)	8 (not verified)
Water Temperature (lowest)	11 deg C
Cl_2 Residual (lowest)	0.4 mg/L (based on past 12 months of reporting)
Required Contact Time ($CT_{Required}$) at Worst Case Operating Conditions Required CT for **0.5 log** reduction of *Giardia* and **2.0 log** reduction of virus	
$CT_{Required}$ (Giardia)	25 min-mg/L
$CT_{Required}$ (Virus)	2.8 min-mg/L
Disinfection Contact Time Evaluation: At the 12 month chlorine residual low of 0.4 mg/L, contact time cannot be met under worse case scenarios. However, Big Basin WC met contact time requirements in 2019.	

Table 11: Calculations
The Division recommends Big Basin WC keeps at least a 0.8 mg/L free chlorine residual measured at the current sample location. Big Basin WC must update the temperature and pH value with results obtained at the chlorine residual grab sample location. The currently reported pH values are assumptions but have not been verified in years. Big Basin WC must use an EPA approved method for monitoring pH from the treated and disinfected water.

Note: The worst case scenario for purposes of this evaluation is a situation where plant conditions that are unfavorable (low temperature, high pH, low chlorine residual) for inactivation are used.

H. OVERALL PLANT APPRAISAL

The treatment plant is in poor overall condition, although Big Basin WC has made progress on some items found during the 2018 sanitary survey. Big Basin WC must continue to address the deficiencies outlined in the 2018 sanitary survey and the list below.

Deficiency List

1. **Formazin** - Formazin was expired and must be replaced no later than **March 30, 2020**. Turbidimeter calibrations must only be completed using current Formazin.

2. **Turbidimeter Inspection and Verification**: The turbidimeter's accuracy is unknow and requires maintenance and accuracy verification from the manufacturer. A manufacturer representative must inspect and verify the accuracy of the turbidimeter no later than **March 30, 2020**. Manufacturer documentation must be sent to the Division after the inspection and verification is complete.

3. **Treated Water pH Monitoring** - pH monitoring equipment that uses an approved sampling method must be purchased no later than **March 30, 2020**. pH monitoring is required no less than daily from the sample location at the end of the contact time segment (after the clearwell).

4. **Updated Operations Plan –** Big Basin WC must send an updated treatment plant operations plan to the Division by **December 31, 2020**. The plan must be completed in accordance with California Code of Regulations, Title 22, Section 64661,

5. **Watershed Sanitary Survey** - Big Basin WC must complete a watershed sanitary survey and provide a summary to the Division by **December 31, 2020**. The watershed sanitary survey must be completed in accordance with California Code of Regulations, Title 22, Section 64665. The watershed sanitary survey must then be updated every five years and sent to the Division.

6. **Daily Settled Water Turbidity** - Big Basin WC must begin collecting daily settled water turbidity (grab sample from the clarifier) measurements and reporting the results to the Division within the monthly surface water treatment plant report. Big Basin WC should target a settled water turbidity of no more than 2.0 NTU.

7. **Chlorine Residual Reporting** - Big Basin WC must send the Division all three daily chlorine residual results including the date and time taken with the monthly surface water treatment plant report.

8. **Chlorine Residual Monitoring** – As long as Big Basin WC uses grab sampling as part of disinfection requirements, Big Basin WC must ensure its handheld monitoring equipment is accurate. Sample vials must be regularly thoroughly cleaned and the monitoring equipment must be periodically verified by an independent laboratory.

9. **Water Treatment Facilities Plan** – In Big Basin WC's 2019 sanitary survey response letter, Big Basin WC indicated a Water Treatment Plant Facilities Plan will be prepared by an engineering consultant in 2020. The plan will identify the path forward for the water treatment plant and includes funding new monitoring equipment, treatment plant building upgrades, and control system upgrades. Big Basin WC must submit this plan to the Division no later than **December 31, 2020**.

10. **Jamison Reservoir Cross Connection** – In Big Basin WC's 2019 sanitary survey response, Big Basin WC stated in 2019, "The existing piping between Jamison Reservoir and the distribution system will be cut, capped, and separated with concrete to create a physical separation between these two sources of water, thereby eliminating all risk of cross connection at this location." The Division has not received proof that this work was completed. Please send the Division proof that this work was completed by **May 10, 2020**.

11. **Power Outage Plan** – a power outage plan that addresses how Big Basin Water Company will remain operational during an extended power outage must be sent to the Division no later than **March 2, 2020**. The plan must include the components outlined in the February 3, 2020 letter sent by the Division.

EXHIBIT G

State Water Resources Control Board
Division of Drinking Water

April 9, 2021

System No. 4410001

Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
bbwater197@yahoo.com

COMPLIANCE ORDER NO. 02_05_21R_001_4410001
FAILURE TO PROVIDE AN ADEQUATE SUPPLY OF PURE, WHOLESOME, HEALTHFUL, AND POTABLE WATER, &
NONCOMPLIANCE WITH SOURCE CAPACITY REQUIREMENTS, &
NONCOMPLIANCE WITH THE 2018 SANITARY SURVEY REPORT DEFICIENCY LIST

Enclosed is Compliance Order No. 02_05_21R_001 (hereinafter "Order"), issued to the Big Basin Water Company (hereinafter "Big Basin WC") public water system. Please note that there are legally enforceable deadlines associated with this Order.

Big Basin WC will be billed at the State Water Resources Control Board's (hereinafter "State Water Board") hourly rate for the time spent on issuing this Order. California Health and Safety Code (hereinafter "CHSC") Section 116577 provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including preparing, issuing and monitoring compliance with an order. At this time, the State Water Board has spent approximately five hours on enforcement activities associated with this violation.

Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on Big Basin WC for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the State Water Board under Article 8

(commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter 4), may file a petition with the State Water Board for reconsideration of the citation, order or decision.

Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the State Water Board. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.

Information regarding filing petitions may be found at:

http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml

If you have any questions regarding this matter, please contact the Division of Drinking Water at dwpdist05@waterboards.ca.gov or (831) 655-6939.

Sincerely,

Stefan Cajina
Digitally signed by Stefan Cajina
Date: 2021.04.09 12:53:32 -07'00'
Water Boards

Stefan Cajina, P.E., Chief
North Coastal Section
Division of Drinking Water
State Water Resources Control Board

Enclosures

Certified Mail No. 7016 2070 0000 1417 3236

cc: Santa Cruz County Environmental Health Services
Marilyn Underwood, Marilyn.Underwood@santacruzcounty.us
Nathan Salazar, Nathan.Salazar@santacruzcounty.us
Sierra Ryan, Sierra.Ryan@santacruzcounty.us

California Public Utilities Commission (CPUC) Water Division
Moises Chavez, moises.chavez@cpuc.ca.gov
Will Dundon, Will.Dundon@cpuc.ca.gov
Stephen St. Marie, Stephen.St.Marie@cpuc.ca.gov

Compliance Order No. 02_05_21R_001

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Name of Public Water System: Big Basin Water Company

Water System No: 4410001

Attention: Jim Moore, Manager

PO Box 197

Boulder Creek, CA 95006

Issued: April 9, 2021

COMPLIANCE ORDER FOR NONCOMPLIANCE

SOURCE CAPACITY REQUIREMENTS

CALIFORNIA CODE OF REGULATIONS

TITLE 22, SECTION 64554(a)(2)

AND CALIFORNIA HEALTH AND SAFETY CODE SECTION 116555 (a)(3)

The California Health and Safety Code (hereinafter "CHSC"), Section 116655 authorizes the State Water Resources Control Board (hereinafter "State Water Board"), to issue a Compliance Order to a public water system when the State Water Board determines that the public water system has violated or is violating the California Safe Drinking Water Act (hereinafter "California SDWA"), (CHSC, Division 104, Part 12,

Chapter 4, commencing with Section 116270), or any regulation, standard, permit, or order issued or adopted thereunder.

The State Water Board, acting by and through its Division of Drinking Water (hereinafter "Division"), and the Deputy Director for the Division, hereby issues Compliance Order No. 02_05_21R_001 (hereinafter "Order"), pursuant to Section 116655 of the CHSC to the Big Basin Water Company (hereinafter "Big Basin WC"), for violation of CHSC, Section 116555 and CCR, Title 22, Section 64554(a)(2).

STATEMENT OF FACTS

Big Basin WC is classified as a community water system and serves a population of 1,694 through 605 connections (information from the 2019 Electronic Annual Report to the Division of Drinking Water (EAR)). Following the August 2020 CZU Lightning Complex Fire, a portion of Big Basin Water Company customer connections were destroyed or damaged, so the current population and customer connection count is lower than reported in the 2019 EAR. Big Basin WC operates under Domestic Water Supply Permit No. 02-05-44-94P-001, issued by the State Water Board on February 11, 1994.

Prior to the August 2020 CZU Lightning Complex Fire, Big Basin Water Company's water sources included treated surface water and groundwater. Sources included groundwater from Well 4 and surface water from Corvin Creek, Jamison Springs, and Horizontal Well No. 5, which supplied the Jamison Surface Water Treatment Plant (Jamison SWTP). Jamison SWTP was a 150 gallons per minute (gpm) capacity treatment plant with two parallel 75 gpm-rated Trident Microfloc upflow contact clarification/filtration units that included coagulation using aluminum sulfate and disinfection with liquid sodium hypochlorite. The State Water Board's 2018 sanitary survey report identified Big Basin WC's noncompliance with source capacity regulations

and included a deadline of December 31, 2019 for Big Basin WC to send a report identifying progress made on increasing source capacity. In a March 3, 2019 letter responding to the sanitary survey report, Big Basin WC proposed the following plan to address its source capacity deficiency:

> *"Proposed Corrective Action: BBWC will contract with a professional engineering consultant to conduct well tests of its groundwater sources and review its surface water capacity to determine necessary steps to increase its source capacity is in accordance with current regulations.*
>
> *Proposed Year for Corrective Action to be Complete: 2020.*
>
> *Total Estimated Cost: $25,000."*

The State Water Board has not received this source capacity evaluation from Big Basin WC.

The August 2020 CZU Lightning Complex Fires destroyed the Jamison SWTP and several other water system facilities. Following the loss of the Jamison SWTP, Big Basin WC currently has only one potable water source, Well 4, and cannot meet source capacity requirements.

Pursuant to CCR, Title 22, Section 64554(a), as a public water system serving less than 1,000 service connections, Big Basin WC is required to have sufficient source capacity to meet the system's 10-year maximum day demand, which is determined pursuant to CCR, Title 22, Section 64454(b). The past 10 years of production data, as reported in Electronic Annual Reports to the State Water Board, are listed in the following table:

Past 10 Years of Production Data (2010-2019) in Million Gallons (MG)			
Year	**Max Day**	**Max Month**	**Year Total**
2019	*0.35*	7.32	67.0
2018	*0.26*	5.39	52.44
2017	*0.37*	7.62	64.51
2016	*0.51*	10.6	78.43
2015	*0.34*	7.09	68.38
2014	*0.48*	9.35	74.18
2013	Big Basin WC did not send a 2013 EAR.		
2012	***0.62***	12.71	98.92
2011	*0.59*	12.21	83.38
2010	*0.43*	8.91	56.71

Note: italicized values indicate a calculated value using Section 64554 guidelines.

Additionally, Big Basin WC is required to meet its 10-year maximum day demand with storage capacity, unless it can demonstrate that it has additional source capacity or an intertie with a nearby system.

The 72-hour pumping test for Well 4, conducted in 1980, demonstrated a maximum capacity of 288 gpm. CCR, Title 22, Section 64554 (g) specifies hard rock well source capacity as 25 percent of the maximum capacity; therefore, the capacity of Well 4 is 72 gpm (288 gpm * 0.25 = 72 gpm) or 0.104 million gallons per day (MGD).

With a 10-year maximum day demand of 0.62 MGD (2012) and an available source capacity of 0.104 MGD, Big Basin Water Company cannot meet the 10-year maximum day demand.

Big Basin WC does not have a second water source or a permanent interconnection to a nearby water system to ensure potable water supply in the event Well 4 fails or is out of service for maintenance, repairs, power outage, or other reasonably foreseeable events. Therefore, Big Basin WC cannot demonstrate the ability to provide a reliable and adequate supply of pure, wholesome, healthful, and potable water as required by CHSC, Section 116555 (a)(3).

Prior to the August 2020 CZU Lightning Complex fires, the State Water Board documented sanitary hazards and operational deficiencies found at Big Basin WC in the 2016 sanitary survey report (dated December 21, 2016), the 2018 sanitary survey report (dated January 10, 2019), and the 2020 surface water treatment plant evaluation (dated February 25, 2020).

During the 2019 Public Safety Power Shutoff (PSPS) program administered by Pacific Gas and Electric (PG&E) in Northern California, electricity was shut off in targeted geographic areas when heightened fire risk weather conditions were forecast. During two PSPS events in October 2019, with advance notice from PG&E that power shutoffs were imminent, Big Basin WC was not prepared and ultimately experienced a water outage on October 28 and 29, 2019, which prompted Big Basin WC to issue a precautionary boil water notice in conjunction with the State Water Board. In a letter dated February 3, 2020, the State Water Board requested a power outage response plan from Big Basin WC, with a deadline to submit the plan by February 28, 2020. The deadline was later extended to March 2, 2020 in the 2020 surface water treatment plant evaluation letter (dated February 25, 2020). The State Water Board has not received a power outage response plan from Big Basin WC.

Big Basin WC has a documented history of failing to administer preventative maintenance, emergency preparedness, and customer complaint programs. This lack of

preparation and inadequate customer communication has contributed to Big Basin WC failing to reliably supply its customers with potable water during emergency events, including the 2019 PG&E Power Safety Shutoffs and the August 2020 CZU Lightning Complex Fire. These deficiencies constitute an ongoing threat of failure to provide a reliable and adequate supply of pure, wholesome, healthful, and potable water as required by CHSC, Section 116555 (a)(3).

DETERMINATION

The State Water Board has determined that Big Basin WC cannot provide an adequate and reliable supply of water pursuant to CHSC, Section 116555 (a)(3) and has failed to comply with source capacity requirements pursuant to CCR, Title 22, Sections 64554(a)(2).

DIRECTIVES

Big Basin WC is hereby directed to take the following actions:

1. By **June 10, 2021**, submit to the State Water Board for review and approval a compliance action plan prepared by a licensed California professional engineer. The compliance action plan must include the following elements:
    a. A proposal to comply with the source capacity requirements of CCR, Title 22, Section 64554 (a)(2), including a schedule for completion of each project phase. As a minimum, the schedule must include the following project phases: environmental review, design, construction, permitting, inspection, and startup. The plan must include an anticipated date when Big Basin WC will achieve compliance with CCR, Title 22, Section 64554(a). The completion date must be no later than **March 10, 2022**, unless otherwise approved by the State Water Board.

b. A schedule for removal and replacement of all fire-damaged infrastructure, including, but not limited to, service laterals, mains, transmission lines, storage tanks, etc.

c. An analysis of Big Basin WC's financial capacity to complete the projects listed in the compliance action plan.

2. On or before **May 10, 2021**, submit to the State Water Board a water contingency plan that describes how Big Basin WC will secure a temporary water supply in the event of an outage or failure of Well 4. In addition to any other options for temporary supply, Big Basin WC must present a feasibility analysis for obtaining an emergency or permanent interconnection to a neighboring public water system, sized to reliably provide water to all Big Basin WC customers.

3. On or before **June 10, 2021**, submit to the State Water Board for approval a schedule for completing the corrective actions identified in Big Basin WC's March 3, 2019 response to the 2018 sanitary survey letter (Appendix 1). The plan must include a schedule and project list to correct existing storage tank, booster station, and distribution system deficiencies. Unless specified below, the plan may exclude any deficiencies related to fire-damaged infrastructure, such as the Jamison SWTP and raw surface water sources. The State Water Board will consider each project completed after adequate documentation and photos have been sent and approved by the State Water Board. State Water Board confirmation may include site visits. As a minimum, the schedule must include the following projects mentioned in the 2018 sanitary survey and March 3, 2019 Big Basin WC response letter:

   a. Letter Section 3.3.3 - remove the cross connection between the Jamison Reservoir and the distribution system

b. Letter Section 3.6 - remove the Robin Hood Tank #2 (Horizontal Tank) from service
c. Letter Section 3.7 - Galleon Heights Booster Station and Storage Tank improvements
d. Letter Section 3.8.1 – Galleon Heights Tank improvements.
e. Letter Section 3.8.2 – Tradewinds pressure system improvements.
f. Letter Section 3.10 – Rancho Dia Tank replacement.
    i. The State Water Board understands this tank was destroyed in the CZU Lightning Complex Fire, but Big Basin WC must provide details on tank replacement at this site or provide a hydraulic model that demonstrates adequate water system operations without this tank
g. 3.11 – Oberst Tank replacement
h. 3.12 – Bloom Grade Tank improvements
i. 3.13 and 3.14 – Create a main replacement program that includes adding distribution system isolation valves.

The completion date for the projects listed above must be no later than **February 28, 2023,** except item (a), removing the cross connection between the Jamison Reservoir and the distribution system, must be completed and verified no later than **June 10, 2021.**

4. On or before **July 10, 2021**, submit to the State Water Board for review and approval a Water System Operations and Maintenance Plan (O&M plan) pursuant to CCR, Title 22, Section 64600. The O&M plan must include the following elements:
    a. A plan and procedures for responding to water supply emergencies, which also includes a power outage response plan that describes how Big Basin

WC will supply water during a power outage. As a minimum, the power outage response plan must include the following items:

i. Preparation protocol for an anticipated, planned power shutoff including filling storage tanks, site visits, water conservation notification, etc.

ii. Identification of critical sites requiring backup power to supply all pressure zones with a system pressure no less than 20 psi during a power outage.

iii. Documentation demonstrating ownership and/or rental contracts to obtain backup power at Well 4 and other identified critical sites before a planned power outage and at the onset of an unplanned power outage.

iv. The process for transporting and installing portable backup power during a power outage at the locations identified as critical for sustained operation in all pressure zones but do not have on-site back power generators.

v. Contact information for neighboring water systems, the State Water Board, Santa Cruz County Environmental Health, emergency response networks, and other contacts needed during a power outage.

vi. The procedure for initiating and distributing public notification in accordance with California Code of Regulations, Title 22, Sections 64663 and 64665 and with State Water Board review and approval.

b. An operations and maintenance schedule for Well 4 and the chlorination system;

c. A schedule and procedure for flushing dead end mains, and procedures for disposal of the flushed water including dechlorination;

d. A schedule for routine inspection of tanks, and procedures for cleaning tanks;
e. A schedule and procedures for inspecting, repairing, and replacing water mains;
f. A plan and procedures for responding to consumer complaints;
g. A schedule and procedures for routine exercising of water main valves;
h. A schedule and program for maintenance and calibration of source flow meters and other online instruments used to determine the quality or quantity of water;
i. The qualifications and training of operating personnel;

5. On or before **September 10, 2021**, submit a permit amendment application package to the State Water Board requesting to add at least one additional permanent water source. The application must include documentation demonstrating compliance with the California Environmental Quality Act (CEQA), water rights, water quality, and all other documentation requested by the State Water Board. Please contact the State Water Board for a full list of requirements.

6. Perform the actions outlined in the State Water Board approved Corrective Action Plans required by Directives 1 and 3, and every element of said plan, according to the time schedule set forth therein.

7. On or before **April 10, 2021** and every 10th of the month thereafter, submit a monthly progress report to the State Water Board showing actions taken during the previous calendar month to comply with the corrective action plans required by Directives 1 and 3, using the form provided as Appendix 2 hereto. For each milestone addressed in the monthly progress report, describe the progress made

during the past month, specify if the milestone was completed and if not completed, provide a reason and an estimated date of completion.

8. By **April 27, 2021**, complete and return to the State Water Board the "Notification of Receipt" form attached to this Order as Appendix 3 Completion of this form confirms that Big Basin WC has received this Order and understands that it contains legally enforceable directives(s) with due dates.

All submittals required by this Order, unless otherwise specified in the directives above, must be electronically submitted to the State Water Board at the following address. The subject line for all electronic submittals corresponding to this Order must include the following information: Water System name and number, compliance order number and title of the document being submitted.

Jonathan Weininger, District Engineer

Dwpdist05@waterboards.ca.gov

The State Water Board reserves the right to make modifications to this Order as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Order and shall be effective upon issuance.

Nothing in this Order relieves the Big Basin Water Company of its obligation to meet the requirements of the California SDWA (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit or order issued or adopted thereunder.

PARTIES BOUND

This Order shall apply to and be binding upon Big Basin WC, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

SEVERABILITY

The directives of this Order are severable, and Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Order.

Stefan Cajina
Digitally signed by Stefan Cajina
Date: 2021.04.09 12:52:55 -07'00'
Water Boards

April 9, 2021

Stefan Cajina, P.E., Chief
North Coastal Section
Division of Drinking Water
State Water Resources Control Board

Date

Appendices (3):

1. Copy of “Response to 2018 Sanitary Survey of Big Basin Water Company” letter, dated March 3, 2019.
2. Progress Report Template
3. Notification of Receipt Form

Certified Mail No. 7016 2070 0000 1417 3236

APPENDIX 1: Copy of "Response to 2018 Sanitary Survey of Big Basin Water Company" letter, dated March 3, 2019.

Big Basin Water Co. & Sanitation
16575 Jamison Creek Rd., Boulder Creek, CA 95006
(831) 338 - 2933

March 3, 2019

Jan R. Sweigert, P.E.
District Engineer, Monterey District Office
Northern California Field Operations Branch
Division of Drinking Water

RE: Response to 2018 Sanitary Survey of Big Basin Water Company (No. 4410001)

Dear Ms. Sweigert,

On January 10, 2019, Big Basin Water Company received your 2018 Sanitary Survey report of the water treatment plant and distribution system. This letter and the enclosed documents provide a written response to the various deficiencies identified in the Sanitary Survey, as well as a list of the deficiencies and a plan to correct them. However, this plan and timeline for improvements is dependent on receiving the necessary funding as an outcome of the current Big Basin Water Company rate case filing with the California Public Utilities Commission.

If you have any questions, please contact Jim Moore at (831) 338 – 2933 or by email at bbwater197@yahoo.com.

Sincerely,

Jim Moore
Chief Operator/Owner
Big Basin Water Company

Enclosed:

1 – 2018 Sanitary Survey Response Memorandum
2 – Map of Existing System Layout and Proposed Corrective Actions
3 – Budgetary Cost Estimate of Improvements

Big Basin Water Co. & Sanitation
16575 Jamison Creek Rd., Boulder Creek, CA 95006
(831) 338 - 2933

Email cc:

Santa Cruz County Environment Health Services

CPUC Water Division
Rami Khalon, CPUC Director – Water Division
Bruce Deberry, CPUC Water Division
Adam Thaler, CPUC Water Division

CPUC Public Advocates Office
Pat Ma, CPUC PAO Program & Project Supervisor

2018 Sanitary Survey Response Memorandum

1. Introduction

This memorandum summarizes deficiencies and recommendations identified by the State Water Resource Control Board Division of Drinking Water (DDW) with proposed corrective actions to be taken by Big Basin Water Company (BBWC), including the timing of any improvements, construction costs to complete, and long-term strategies. The corrective actions presented below are grouped together based on the primary station where deficiencies were identified. An ordered list of the deficiencies as identified in the sanitary survey is available in the table at the end of this document.

2. Cost Estimating

Construction and maintenance costs presented herein are based on the following assumptions:

- All new construction will meet current application standards and codes
- Costs presented are based on general contractor, manufacturers, and/or professional engineering estimates
- Unless otherwise specified, retirement costs are not included with the cost estimate
- All construction is assumed to be design-build by the general contractor
- Costs included standard industry markups including Company Labor & Overhead (10%), Permits and Municipal Fees (3%), Construction Contingencies (15%)
- All costs are Present Valve (PV) for 2019
- Total estimated costs for identified corrective actions include costs for short-term and long-term solutions

3. Proposed CAPEX Corrective Actions

3.1. Well 4 Station

Identified Deficiency: Well 4 does not have a 50-foot sanitary seal and continually exerts a chlorine demand on system water that reduces the system chlorine residual. BBWC has been required to install chlorination at Well 4 since the 1994 permit from DDW but has not yet done so. BBWC must provide a plan for wellhead disinfection to DDW no later than March 10, 2019 and provide wellhead disinfection no later than May 20, 2019.

Proposed Corrective Action: In the short term, BBWC has installed a free chlorine injection system to improve the free chlorine residual in the distribution system. The electrical configuration of the chemical pump ensures that the pump only injects chlorine into the tank inlet piping when the groundwater well is operating (see Figure 1).

Figure 1. Temporary Disinfectant Injection Configuration at Well # 4

In the long term, a County permitted chemical storage and injection system will be installed. The system will include a 12.5% sodium hypochlorite solution. The solution will be stored with double containment consisting of a 55-gallon drum inside of a lockable polyethylene housing rated for the outdoors. This PE housing unit will be seated and anchored into a concrete foundation and will be located adjacent to the existing bolted steel tank. A peristaltic pump will inject free chlorine into the well discharge piping through a retractable injection assembly and using chemical piping and tubing to ensure double containment. The chemical pump will be activated whenever the groundwater well pump is running. Grab sampling from the tank outlet piping will confirm disinfectant levels entering the distribution system are adequate. Additional work will be performed to ensure that there is drainage away from the tank base.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $253,900

3.2. Corvin Creek Station

Identified Deficiency: The existing Corvin Creek sedimentation tank is in poor physical condition and shows signs of corrosion. Additionally, the reservoir is located on an unstable foundation. The reservoir could potentially tip over if a landslide or a strong seismic event occurred.

Proposed Corrective Action: The Corvin Creek sedimentation tank was originally constructed as a settling tank for the spring diversion but has since become obsolete. Currently, all raw water sources are conveyed to a more recently constructed 5,000 gallon polyethylene settling tank at Jamison station. Therefore, the Corvin Creek tank is no longer necessary for system operations and retirement of this asset is recommended. Existing piping and associated appurtenances at the existing tank site location will be modified to bypass the Corvin Creek tank using 6-inch PVC or HDPE piping.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $15,800

3.3. Jamison Station

3.3.1. Intake 1 Sedimentation Tank

Identified Deficiency: The intake includes a 2,000 gallon steel sedimentation tank in poor condition with signs of corrosion. BBWC needs to replace the tank and provide a stable foundation.

Proposed Corrective Action: The existing sedimentation tank has become obsolete since the construction of a 5,000 gallon polyethylene settling tank at Jamison station. Therefore, the Intake 1 sedimentation tank is no longer necessary for system operations and retirement of this asset is recommended. Existing piping and associated appurtenances at the existing tank site location will be modified to bypass the sedimentation tank using 6-inch PVC or HDPE piping.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $15,800

3.3.2. Intake Transmission Lines & Screen

Identified Deficiency: The previous steel transmission lines for both intake 1 and 2 are broken and flexible pipes have been installed temporarily. BBWC must install a permanent transmission line using NSF 61 materials. In addition, the screen on Intake 2 was not properly secured.

Proposed Corrective Action: Replace the existing intake piping with 6-inch PVC or HDPE pipe from each intake (approximately 700-ft of piping to be installed) with all air-valves, valving, blowoffs, and all necessary appurtenances to service the line. Install a new secured screen on Intake 2.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $95,500

3.3.3. Reservoir Cross Connection with Distribution System

Identified Deficiency: The Jamison surface water reservoir must be physically disconnected from the distribution system. Due to the nature of the cross connection (separated only by a closed isolation valve), BBWC must develop a well researched plan that reduces the risk of potable water contamination with raw surface water.

Proposed Corrective Action: The existing piping between Jamison Reservoir and the distribution system will be cut, capped, and separated with concrete to create a physical separation between these two sources of water, thereby eliminating all risk of cross connection at this location.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: $22,200

3.4. Hill House Station

Identified Deficiencies: Plants have grown around the site and need to be cut back around the tank perimeter. The tank is located adjacent to a home with its own well and tank. BBWC must ensure there are no cross connections and if the home is a customer of BBWC, the home owner has an approved reduce pressure assembly at their meter. The polyethylene tank does not have a foundation. As the budget allows, a more permanent foundation with seismic restraints should be installed. The tank site is not fenced. DDW recommends the site be fenced.

Proposed Corrective Action: BBWC has verified no cross connection exists and vegetation surrounding the tank has been cleared (see Figure 3). To secure the tank, BBWC will install a seismic restraint assembly consisting of four-way cables, cable clamps or clips, and anchor bolts. Anchor bolt length and depth to be determined by a soil or foundation engineer, similar to the example shown in Figure 2. BBWC will also install approximately 170 ft of fence surrounding the tank site with a 12-ft swing gate, as well as about 400 sf of base rock or gravel roadway to provide safer access to the site.

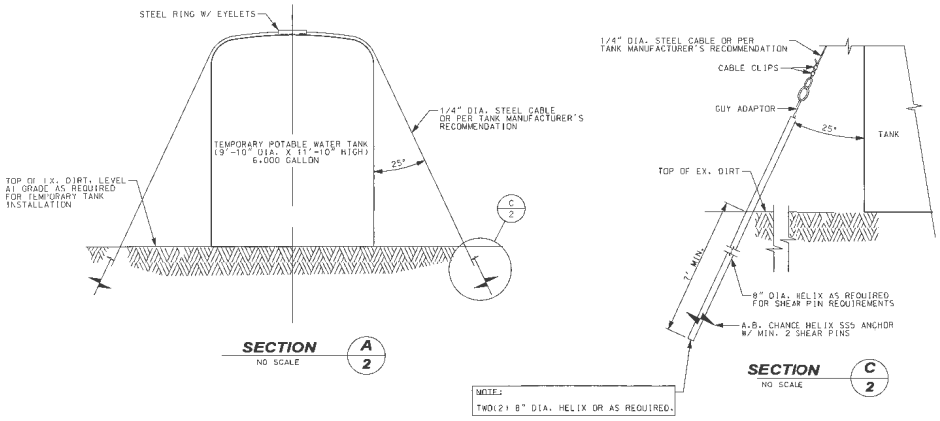


Figure 2. Example of Seismic Restraints

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Figure 3. Vegetation cleared surrounding Hill House Tank

Proposed Year for Corrective Actions to be Complete: 2022

Total Estimated Cost: $34,200

3.5. Water Treatment Plant

Identified Deficiency: DDW noted the following issues at the water treatment plant:

- The filter unit nearest the entrance door has a break in the clarification media screen, which has allowed the buoyant clarification media to enter the filter cell. The loss of clarification media will affect treatment plant performance. The screen must be replaced with a new screen, and the lost clarification media must be replaced.

- BBWC is required to purchase and install a chlorine residual analyzer due to past violations of grab sampling requirements. The Division requested an approved chlorine residual analyzer to be installed by April 30, 2018, but BBWC has not purchased and installed an analyzer to date. A new continuous chlorine residual analyzer using an approved EPA method using must be installed.

- The treatment plant building is a wood building in poor overall condition. The plant was overrun with rodents, so the BBWC keeps cats in the treatment plant building. BBWC must repair building deficiencies including eliminating potential entrance points for domestic animals and rodents. BBWC should begin planning to replace the treatment plant building to address the rodent problem.

- Parts of the existing turbidimeter were replaced with parts from another turbidimeter. Due to the overall condition and age of the turbidimeter, BBWC must budget to replace the turbidimeter with a new EPA method certified turbidimeter no later than November 10, 2019. A manufacturer representative must evaluate the current turbidimeter for accuracy. BBWC must continue to perform calibrations according to the manufacturer's recommendations.

- Until a manufacturer representative has evaluated the turbidimeter, BBWC must have its laboratory analyze filtered water turbidity samples at least once every two weeks and report the result to the Division along with the turbidimeter turbidity reading.

- DDW recommends BBWC install an additional turbidimeter so there are turbidimeters on each filter unit. A backup turbidimeter should also be available, as required by Section 64659(a)(2), which states that standby replacement equipment should be available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection.

- DDW recommends BBWC install a new turbidimeter on each individual filter effluent (IFE) line.

Proposed Corrective Action: To address DDW's comments in the short term, BBWC intends to do the following work identified below. However, given the state of the existing WTP and that much of the infrastructure is now over 26 years old, it is clear that the existing plant is in need of a complete long-term evaluation. For this reason, BBWC is budgeting for a Water Treatment Plant Facilities Plan to be completed by a professional engineering consultant in 2020 (see Section 4.3).

- Repair filter screens as necessary and replace clarification media in both units
- Replace the Programmable Logic Controls (PLC) on both units. The existing PLCs are backed on cassette tapes, no longer supported by the manufacturer or any suppliers.
- Install a HACH CLT10sc Total Chlorine Analyzer with SC200 Controller on the treated water line sample tap to allow for continuous monitoring. The HACH chlorine analyzer is compliant with EPA Method 334.0 for reporting chlorine residual measurements. The analyzer allows for real-time control of disinfection processes by providing continuous readings and self-diagnostics to alert users when the process has changed or the instrument needs servicing.
- Clean the building and repair all holes and seal openings near windows, vents, and doors in the building to limit entrance points for animals. Install rodent bait stations around the exterior perimeter for the building and replace all the rotten or damaged wood siding.
- Replace the existing turbidimeter with two HACH TU5300 online laser turbidimeters; one on the effluent end of each filter unit. Purchase a third turbidimeter as backup to increase system reliability. Turbidimeters have real-time capabilities and are compliant with EPA Method 180.1. A list of turbidimeter alarms or shutdown set points will be provided to DDW.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $236,300

3.5.1. WTP Chemical Storage Tanks and Storage Building

Identified Deficiency: Chemical Storage Tanks have large holes in their lids and are corroded. Furthermore, the secondary containment is partially full of ponding liquid, which poses an unknown risk. BBWC needs to install new alum and chlorine storage tanks and store the tanks separately. Chlorine and Alum are of different chemical storage groups and as a safety precaution should not be stored together. One of the chemical storage tanks in the chemical storage building is double contained, but both chemical storage tanks are stored together in the same containment facility and next to each other. The chemicals should be further separated and not stored in the same double containment box. The Chemical Storage Tanks (chlorine and alum) have a treated water line (for dilution) plumbed directly into storage tank. A proper air gap must be provided between the treated water fill line and the chemical tanks.

Proposed Corrective Action: BBWC will replace the existing chemical storage building with a new County permitted chemical storage facility that includes a wooden roof structure and concrete foundation. Two lockable polyethylene modular spill pallet with chemical containment and rated for outdoor storage will be housed and anchored to the concrete pad. 55 gallon drums of sodium hypochlorite and aluminum sulfate will be stored separately in each of the modular spill pallets. BBWC will prepare and submit a Hazardous Materials Business Plan to the County. In the long-term, the Water Treatment Plant Facilities Plan will consider including a permanent indoor chemical storage facility as part of a new building consideration.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $149,000

3.5.2. WTP Backup Generator & Site Security

Identified Deficiency: BBWC does not have any backup power for the water treatment plant and this is the main source of supply into the system. In addition, the treatment plant is not secured by any fencing or gate.

Proposed Corrective Action: Install a 20-ft wide double swing gate and 950-ft of 6-ft high chain link fencing around all Jamison Station facilities as one enclosed area, which includes the sedimentation tank, chemical storage building, reservoir, WTP building, and storage tank. Install a 20-ft wide barrier gate at the entrance of the road leading to Jamison Station from Jamison Creek Road.

A backup generator will be considered in the Water Treatment Facilities Plan proposed as part of a long-term improvement plan to ensure the treatment plant can continue to operate and serve customers even in the event of a power outage.

The site security measures and backup generator will be addressed in 2022 following completion of the Water Treatment Plant Facilities Plan. At this time, only fencing costs are included below.

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: $119,300

3.6. Robin Hood (Tank #2) Station

Identified Deficiency: The Robin Hood bolted steel tank provides a storage capacity of 10,000 gallons and primarily serves as an equalization storage reservoir. The horizontal tank is supplied by gravity from the 40,000 gallon Robin Hood Tank laying at an approximate elevation of 1,300 feet. In its current state, the tank is in poor physical condition and does not meet existing drinking water standards. Fallen tree branches obstruct access to the reservoir. Moreover, the exterior of the reservoir shows signs of advanced corrosion. Additionally, the tank lays on an unstable wooden foundation without any strong supports.

Proposed Corrective Action: As a temporary solution, BBWC will install a 2-inch bypass pressure reducing valve, set an adequate setpoint to serve customers in the Kings Highway Zone, and bypass the existing the horizontal Robin Hood tank. Additional piping will also be installed as

needed in order to bypass Robin Hood Tank #2. As a long-term solution, BBWC plans to construct a complete 6-inch regulating station at the reservoir site. The new regulating station will supply the existing Kings Highway zone service area. Once the construction of the regulating station is completed, the existing Robin Hood horizontal tank will be properly retired. The new regulating station will incorporate a Singer 6-inch S106-PR-C-SM dual-rolling diaphragm. If the primary chamber within the diaphragm fails, the secondary chamber will take over and regulate the downstream pressure at a desired pre-determined setpoint. The 6-inch valve can sustain a maximum flow rate of 1,800 gpm exceeding both fire flow requirements and maximum day demands in the zone.

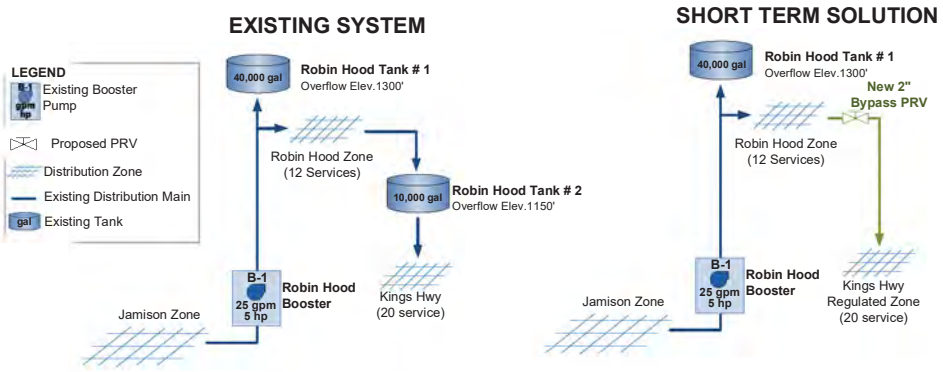

Figure 4. Proposed Corrective Action for Robin Hood Horizontal Tank (Tank # 2) – Short Term

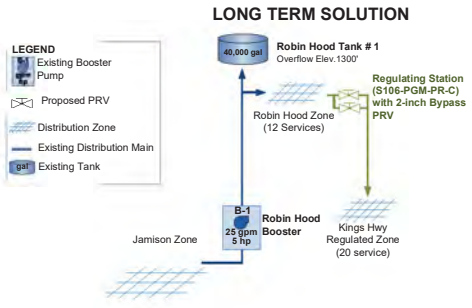

Figure 5. Proposed Corrective Action for Robin Hood Horizontal Tank (Tank # 2) – Long Term

Proposed Year for Corrective Action to be Complete: 2019 (2-inch bypass), 2023 (6-inch regulating station)

Total Estimated Cost: $130,800

3.7. Galleon Heights Booster Station and Storage Site

Identified Deficiencies: Several holes were observed on the wooden side panels of the pump house. Rodent droppings were present on above-grade piping and on the pump bodies. Rodent droppings can create unsanitary conditions and potentially contaminate the source of water supply water. Additionally, the Galleon pump station is severely oversized in comparison to the demands of the service area the pumps supply water to. Consequently, the surplus capacity of the booster pumps limit system operations flexibility, as the clearwell must remain close to its maximum level for the pumps to operate safely. Moreover, the pumps are in poor physical condition and exhibit signs of physical deterioration due to corrosion.

Proposed Corrective Actions: The existing wooden building has exceeded its useful life and will be replaced with a new wooden structure. The inside of the building will be cleaned and the piping will be sandblasted and recoated.

Existing booster pumps and motors will be replaced with two 100-gpm vertical in-line pumps to provide more reliable supply to the tank and replace the oversized equipment currently there. Electrical and logic controls will be installed to allow BBWC to operate pumps based on the water level in the Galleon tank and prevent overflow events. Scope of work would also include a new backup generator receptacle to allow for continued pumping operations to the Galleon reservoir in the occurrence of a power outage.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $125,200

3.8. Tradewinds (Galleon Heights Tank Site) Station

3.8.1. Galleon Heights Reservoir Improvements

Identified Deficiencies: The Tank Vent Screen located at the center of the roof reservoir is corroded. Depending on the size of the opening in the vent induced by corrosion, debris, living organisms and other non-desirable pathogens can make their way into the water supply. The roof access hatch does not include a seal. The sealing gasket has primary goals to prevent debris, pathogens and organisms to contaminate the water supply. The overflow terminates approximately two inches from the ground and does not ensure minimum standard clearance compliance. Screen at the bottom of the overflow pipe is not effective in its current configuration.

Proposed Corrective Actions: The installation of a new gasket seal around the existing hatch has already been completed as well as a #24 Mesh stainless steel screen to retrofit the existing vent screen (see Figures 6 and 7). As a temporary solution, to ensure the overflow pipe complies with existing air-gap requirements, BBWC has cut the overflow pipe and installed a new screen at the bottom of the overflow pipe (see Figure 8). As a long-term solution, BBWC will install a Tideflex Dechlorinating Overflow Security Assembly (DOSA). The DOSA will dechlorinate any overflow water to comply with the Statewide General NPDES Permit for Drinking Water Systems Discharges and prevent debris and insects from entering the tank. A new storm drain and piping will be also be installed to allow overflow water to drain away from the tank.

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Commented [WJ2]: Jim – please delete note and insert a picture here of the new hatch gasket.

Figure 6. Sealed Shoe-Box Hatch

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Commented [WJ3]: Jim – please delete note and insert picture here of the new vent screen.

Figure 7. New #24 Mesh Vent Screen

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Commented [WJ4]: Jim – please delete note and insert picture here of the cut and screened overflow pipe.

Figure 8. Existing Overflow Pipe Cut and Screened

Included with this work will be the installation of a water level transducer, spread spectrum radio, and electrical work to enable the Galleon booster station to operate based on the water level inside the tank.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $61,400

3.8.2. Tradewinds Pressure System Improvements

Identified Deficiencies: The Tradewinds pressure system consists of three booster pumps, two bladder tanks, and a backup generator. Both pressure tanks were constructed in 1975 and have since become waterlogged due to ruptured bladders, and DDW identified these as needing to be removed or replaced. DDW also identified the existing piping in the pressure system as being aged and corroded, and in need of an overall improvement plan to address. The backup generator

has been out of service and needs to be fixed since this pressure system is the sole source of water for the customers in this pressure zone.

Proposed Corrective Actions: BBWC will replace both ruptured bladders inside the pressure tank with new Amtrol WX-456C bladder tanks. Existing piping and valving will be sandblasted and recoated. The existing generator has already been repaired and is now fully operational (see Figure 9). The existing roof and wood siding will also be replaced to protect the pumping equipment and ensure rodents do not enter the building.

Figure 9. Generator repaired and operational

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $136,400

3.9. China Grade (Camino Verde) Station

Identified Deficiency: The tank site is not secured and DDW recommends a perimeter fence be installed. BBWC must ensure that there are no connections to the previously used redwood tank and install a roof lock.

Proposed Corrective Action: Install 145 feet of 6-ft high chain link fencing surrounding the tank site with one 12-ft entry gate. Construct approximately 1,000 sf of base rock or gravel roadway for safe access to the site. BBWC has installed a roof lock (see Figure 10).

Figure 10: Roof lock on China Grade Tank.

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: $24,200

3.10. Rancho Dia (Santa Rosita) Station

Identified Deficiency: The redwood tank is a significant hazard due to the leaks, redwood condition, debris observed inside the tank, and many openings and breaks in the perimeter vent screen. According to Division records, the tank was constructed in 1958 and is past its useful life. Tank rehabilitation/replacement must be done in accordance with NSF 61, Waterworks Standards, and AWWA standards.

Proposed Corrective Action: To address the deficiency immediately, BBWC will disconnect the existing Rancho Dia Tank and install a 10,000 gallon polyethylene tank. This action will eliminate all hazards associated with the existing tank and ensure sufficient storage capacity is available to meet fire flow in the surrounding area. Once the existing redwood tank is removed from the site, the 10,000 gal polyethylene tank will be relocated and anchored to the existing tank foundation. In addition, a base rock or gravel roadway will be constructed for safer access to the site.

In the long-term, BBWC will evaluate retiring the Rancho Dia tank site all together. The Rancho Dia tank base elevation is lower than other storage facilities in Jamison zone, causing little to no turnover in the Rancho Dia tank and water age concerns. Installing a future regulator from the Hill House tank will satisfy customer demands, meet fire flow requirements, and eliminate the water age and hazards associated with the existing Rancho Dia tank site.

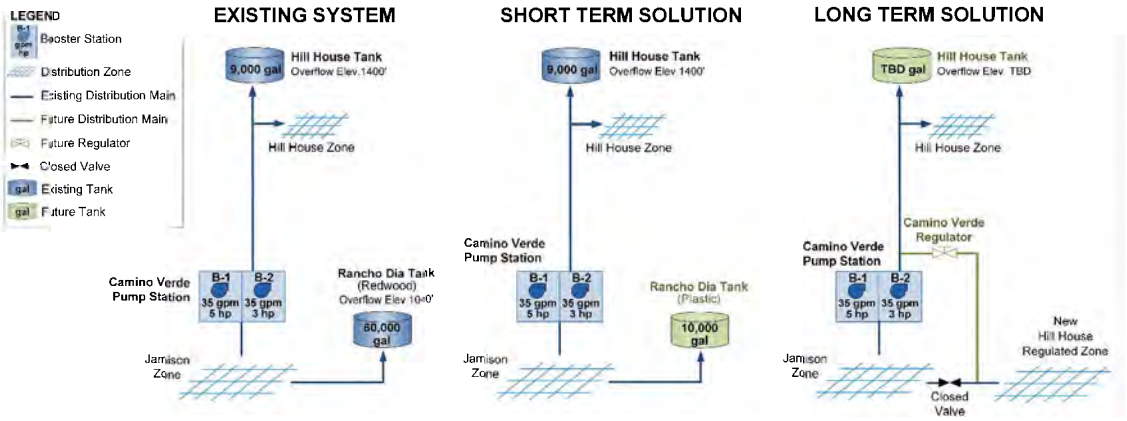

Figure 11: Rancho Dia and Hill House Short & Long-Term Solutions

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: $74,300

3.11. Oberst Station

Identified Deficiency: The Oberst tank is an aged small steel tank. The interior and exterior coatings are severely corroded. Large rust nodules were observed attached to the interior tank wall. The corrosion presents a sanitary and structural risk. BBWC must provide a plan and schedule for replacement of this tank no later than May 10, 2019. The replacement plan must include NSF 61, AWWA, and Waterworks Standards compliance and a plan to construct a tank foundation and provide proper seismic supports.

Proposed Corrective Action: BBWC will replace the Oberst tank with a 10,000 gallon polyethylene tank anchored to the existing foundation. BBWC will also install a fence surrounding the tank site with a 12-ft swing gate.

Figure 12: Oberst Station existing foundation

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: $64,600

3.12. Bloom Grade Station

Identified Deficiency: The tank site is not secured and DDW recommends a fence be constructed. Clarify Bloom Grade tank ownership, verify no cross connections exists, and install a tank drain and sample tap.

Proposed Corrective Action: Installation of about 170 ft of 6-ft high chain link fence surrounding the tank site with a 12-ft swing gate plus approximately 8,000 sf of base rock or gravel road to safely access the site. BBWC confirmed that no cross connection exists (see Figure 13). BBWC will install a tank drain and sample tap with other site improvements. BBWC is currently working with homeowners for easements and rights to access the tank.

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Commented [WJ5]: Jim – please delete note and insert picture here showing no cross connection.

Figure 13: No cross connection exists with Bloom Grade tank

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $71,800

3.13. Isolation Valves

Identified Deficiency: According to BBWC, there are some stretches of mainline without an isolation valve for miles. DDW recommends BBWC review all records and install isolation valves in accordance with CCR Title 22 Waterworks Standards.

Proposed Corrective Action: BBWC has reviewed its as-builts and will bring the mainline into compliance with the Waterworks Standards. Bringing the mainline into compliance will require the installation of 14 new line valves, spaced no farther than 1,320 feet apart along water mains. The installation of five new line valves will ensure that the requirement pertaining to tee and crossing connections is met. A summary of the number of valves and cost is presented in Table 1.

Table 1. Summary of Distribution Valve Requirements

Size (inch)	No. Valves	Installation (Cost per Valve)	Total Cost
2	2	$6,000	$12,000
4	8	$8,000	$64,00
6	4	$11,000	$44,000
8	3	$16,000	$48,000
10	1	$19,000	$19,000
12	2	$22,000	$44,000
Total	**20**	**-**	**$231,000**

Proposed Year for Corrective Action to be Complete: Five year program: 2020 – 2024

Total Estimated Cost: $231,000

3.14. Distribution Mainlines

Identified Deficiency: Lack of main replacement plan to replace leaky, aged, undersized (less than 4-inches), and above ground mainlines as part of a capital improvement plan. DDW recommends BBWC to develop a long-term main replacement program.

Proposed Corrective Action: Replace pipelines at a 1.5% rate, or approximately 1,360 ft of pipe per year. An age and failure rate analysis was performed considering the approximate current ages of pipelines in the distribution system and survival curves for existing pipe types. It was assumed that all steel pipelines were installed in the 1940's, all AC pipelines were installed in the 1960's, and all PVC pipelines were installed in the 1990's, and that the oldest pipes with the lowest survival rate are replaced first. The model calculates the average failure rate of all pipelines given their age and the pipe type's survival curve. It assumes that each year a certain percentage

of pipes are replaced, thus reducing the average age and average risk of pipelines across the system. The analysis showed that a replacement rate of 1.5% would ensure that the average age of pipelines in the system does not grow over time, but decreases from about 50 years today to 43 years in 2069 (see Figure 14). Additionally, replacing at a 1.5% rate will prevent the pipeline failure rate from escalating to an unmanageable level. Instead, risk of pipeline failure will steadily decrease over time (see Figure 15).

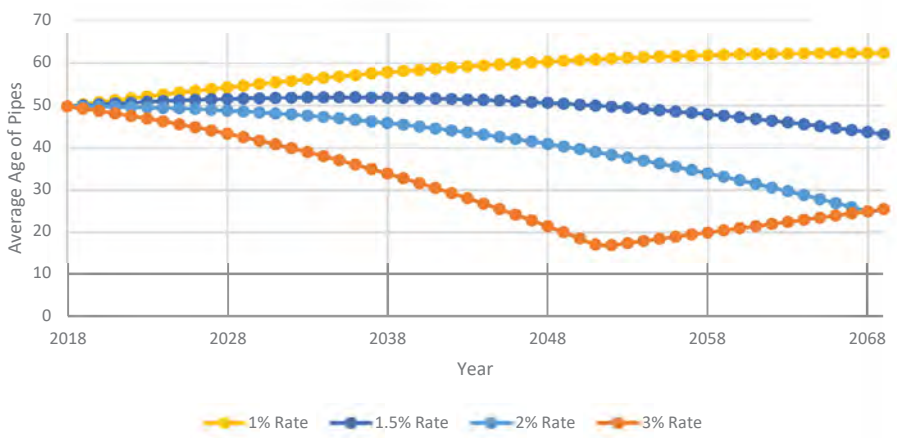

Figure 14: Average age of pipelines under 1-3% replacement programs

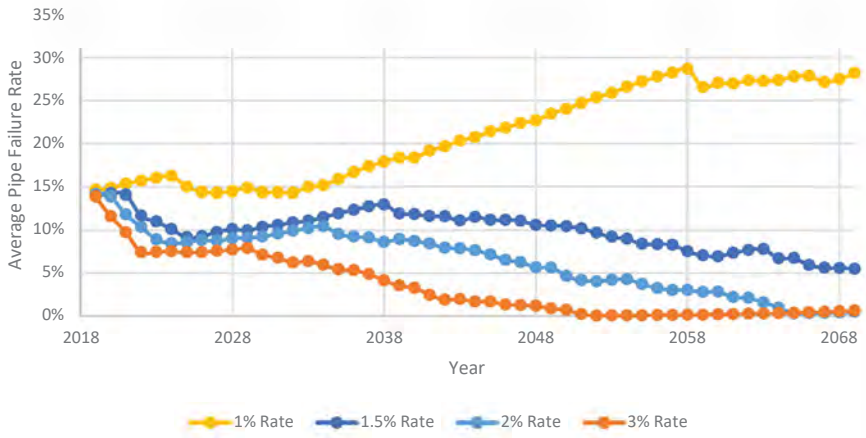

Figure 15: Average failure rate of pipelines under 1-3% replacement programs

Proposed Year for Corrective Action to be Complete: Starting in 2022 and ongoing

Total Estimated Cost: $270,000 / year

3.15. Retire Inactive Wells

Identified Deficiency: BBWC has two inactive well sources listed in DDW's database, Galleon Well 1 and Well 2. DDW recommends BBWC schedule to destroy these inactive groundwater sources.

Proposed Corrective Action: BBWC will work with a certified well driller to retire Well 1 and will clear the site of old pumping equipment and appurtenances, disinfect the well column, fill the void in with fill and sealing material, remove at least five feet below the surface and seal the top, and restore the site back to its original conditions.

According to BBWC's groundwater well consultant, Well 2 has the potential to be restored to provide approximately 35 gpm into the system. BBWC intends to evaluate the costs and benefits of restoring and receiving this well as part of the surface water capacity evaluation study (see Section 4.8).

Proposed Year for Corrective Action to be Complete: 2023

Total Estimated Cost: $26,200

4. Proposed Administrative Corrective Actions

4.1. Jamison Reservoir as a Surface Water Source

Identified Deficiency: BBWC is not permitted to use the Jamison Reservoir, a 3 MG artificial reservoir primarily fed by overflow from surface water sources, as a water source. The reservoir is not permitted raw surface water source and cannot be used as a surface water source.

Proposed Corrective Action: BBWC has stopped using Jamison Reservoir as a surface water source. BBWC will evaluate the need for this source water and apply for the source to be permitted if the use of this source water is deemed necessary to meet system demands.

Proposed Year for Corrective Action to be Complete: Now

Total Estimated Cost: N/A

4.2. Quarterly Tank Inspection

Identified Deficiency: Based on the condition of the storage tanks, BBWC is not adequately inspecting storage tanks. BBWC must begin to inspect all tanks at least quarterly and inspect Rancho Dia tank monthly. BBWC must provide a summary of tank inspections quarterly using the form provided by DDW.

Proposed Corrective Action: BBWC will perform tank inspections, at minimum, on a quarterly basis. BBWC will document the tank inspections by completing the forms provided by DDW in the

2018 *Sanitary Survey Report*. The Rancho Dia (Rosita) tank is scheduled to be replaced as soon as possible with a new 10,000 gallon polyethylene tank.

Proposed Year for Corrective Action to be Complete: Now & ongoing

Total Estimated Cost: N/A

4.3. WTP Facilities Plan

Identified Deficiency: The filtration units are in poor overall condition and must be evaluated by a WesTech® representative or consulting engineer with experience in surface water treatment to determine necessary upgrades.

Proposed Corrective Action: BBWC acknowledges the existing surface water treatment facility has exceeded the extent of its useful life and is in need of significant investment. While BBWC has approached WesTech® vendor to replace the media and improve the Programmable Logic Control (PLC), these systems are more than 26 years old and are in need of a long-term evaluation. For example, the PLC is currently backed up on cassette tapes, a format which is no longer supported by the manufacturer or any representative distributor. Even with the immediate improvements proposed in Section 3.3.1, BBWC intends to contract with a professional engineering consultant with experience in surface water treatment to prepare a master facilities plan for the Jamison Station.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $50,000

4.4. Surface Water Treatment Plant Operations Plan

Identified Deficiency: In accordance with CCR, Title 22, Section 64661, BBWC shall update its surface water treatment plant operations plan.

Proposed Corrective Action: BBWC will consult with a professional engineering consultant to review and revise BBWC Operations Plan after the immediate improvements and new equipment has been installed at the surface water treatment. The new Operations Plan will address all tasks listed in the 2018 *Sanitary Survey*, as well as the following:

- Chlorine residual grab sampling and reporting requirements
- Settled water turbidity grab sampling and reporting requirements
- pH monitoring standard approach using EPA approved methodology
- pH and temperature daily monitoring from water leaving the treated water contact time
- Clarifier and filter loading rates calculation and reporting requirements

This will be completed after WesTech® completes the retrofit and improvements to the existing Microfloc treatment plant.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $25,000

4.5. Distribution System Chlorine Residual

Identified Deficiency: As a surface water system, a detectable residual of 0.2 mg/L must be measured in at least 95 percent of the distribution samples.

Proposed Corrective Action: BBWC has increased the chlorine dosage to ensure a minimum 0.2 mg/L free chlorine residual throughout the distribution system. In addition, BBWC will implement all the disinfection system improvement projects listed above.

Proposed Year for Corrective Action to be Complete: Ongoing

Total Estimated Cost: N/A

4.6. Cross Connection Control Program

Identified Deficiency: BBWC must provide a copy of its current cross connection control operating rules. BBWC must conduct a system wide cross connection control survey, and identify all backflow prevention assemblies in the system and provide a list to DDW.

Proposed Corrective Action: BBWC will consult with a backflow prevention specialist to assist in the preparation of a Cross Connection Control Program, which will include standardize rules, equipment, and testing requirements. This program with then be presented to the California Public Utilities Commission for review and approval. Once the program is approved, the consultant will complete a system wide survey and inventory all backflow prevention assemblies in the system.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: $25,000

4.7. Watershed Sanitary Survey

Identified Deficiency: BBWC must conduct a watershed sanitary survey in accordance with CCR, Title 22, Section 64665

Proposed Corrective Action: BBWC will contract with a professional environmental consultant to prepare an updated Watershed Sanitary Survey in compliance with CCR Title 22 64665. The survey and report will include a physical and hydrogeological description of the watershed, a summary of source water quality monitoring data, a description of activities and sources of contamination, description of any significant changes that have occurred since the last survey which could affect the quality of the source water, a description of watershed control and management practices, an evaluation of the system's ability to meet requirements, and recommendations for any corrective actions.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $25,000

4.8. Source Capacity

Identified Deficiency: BBWC is unable to meet source capacity requirements according to the method outlines in CCR, Title 22, Section 64554.

Proposed Corrective Action: BBWC will contract with a professional engineering consultant to conduct well tests of its groundwater sources and review its surface water capacity to determine necessary steps to increase its source capacity is in accordance with current regulations.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $25,000

4.9. Records

Identified Deficiency: BBWC must begin storing records for all preventative maintenance programs including system flushing, valve exercising, and full tank inspections.

Proposed Corrective Action: BBWC has begun a more diligent record keeping program. BBWC maintains a log of all preventative maintenance items performed on the water system including the date, location and nature of the action performed. Additionally, BBWC will start developing their own forms and checklists when performing tests and water samplings based on best practices recommended by industry standards and public entities. All records will be organized, stored in a separated file cabinet, and easily accessible when necessary.

Proposed Year for Corrective Action to be Complete: Now

Total Estimated Cost: N/A

4.10. Operator Staffing

Identified Deficiency: DDW recommends BBWC add additional certified operators to ensure coverage at the treatment plant and to complete preventative maintenance. DDW also recommends BBWC add an additional T3 treatment operator to ensure a certified chief operator is available at all times.

Proposed Corrective Action: The distribution system is classified as a D3 water system, but the treatment plant is classified by DDW as a T2 treatment facility. It is unclear why DDW is recommending an additional T3 treatment operator. BBWC will evaluate contracting for at least one more full time and certified D3, T2 operator to ensure that at least one chief operator is available at all times for the distribution system and treatment plant. BBWC will also look into the financial feasibility of hiring additional staff and contracting out overhead staff duties.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: N/A

4.11. Emergency Response Plan

Identified Deficiency: DDW recommends BBWC create an updated Emergency Response Plan.

Proposed Corrective Action: BBWC will contract with a professional engineering consultant to prepare an emergency response plan in compliance with current regulatory standards.

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: $20,000

Summary of Corrective Actions

Order of Hazard:
A. Critical Health Hazard
B. Serious Health Hazard
C. Potential Health Hazard
D. System or Operational Defect Resulting in Poor Waterworks Practice

Deficiency Identified	Order of Hazard	Date to Address Deficiency	Proposed Corrective Action			
			Description	Schedule	Cost	Memo Section Reference
SOURCES						
Well 4 Chlorination	A	Plan by 3/10/19 Completed by 5/20/19	Temporary chlorination system already installed; long term injection system to be completed by end of 2020	2020	$253,900	3.1
Corvin Creek Intake Sedimentation Tank	C	July 10, 2020	Bypass and retire sedimentation tank	2022	$15,800	3.2
Jamison Intake 1 Sedimentation Tank	C	July 10, 2020	Bypass and retire sedimentation tank	2021	$15,800	3.3.1
Jamison Intake 2 Screen	C	March 10, 2019	Install a secure screen	2021		
Jamison Intake 2 Transmission Line	C	March 10, 2019	Install 700-ft of 6-inch PVC or HPDE raw water main	2021	$95,500	3.3.2
Jamison Intake 1 Transmission Line	C	March 10, 2019				
Jamison Reservoir as a Surface Water Source	N/A	Now	BBWC to cease using Jamison Reservoir as a source of raw water	Now	-	4.1
Jamison Reservoir Cross Connection	A	March 10, 2019	Cut & Cap pipes to eliminate cross connection	2019	$22,200	3.3.3
BOOSTER STATIONS						
Galleon Heights Booster Station Housing	C	Sept 10, 2019	Replace wooden building	2021	$125,200	3.7
Galleon Heights Booster Pump Plan	D	Sept 10, 2019	Pumps will be replaced with more appropriately sized pumps			
Tradewinds Booster Station Waterlogged Pressure Tanks	C	Dec 31, 2019	Replace the bladder in the existing tanks and return to service			
Tradewinds booster Station Piping and Valving Corrosion	D	Dec 31, 2019	Clean existing piping and recoat	2021	$136,400	3.8.2
Tradewinds Booster Station Generator	C	March 10, 2019	Generator has been repaired and is back in service			
STORAGE						
Galleon Tank Vent Screen	C	March 10, 2019	# 24 Mesh vent screen already installed			
Galleon Tank Roof Access Hatch	D	March 10, 2019	Hatch gasket already installed	2021	$61,400	3.8.1
Galleon Tank Overflow	D	March 10, 2019	Include a DOSA assembly with storm drain and drain away from tank			
Robin Hood Bolted Steel Tank Roof Hatch Seal	D	March 10, 2019				
Robin Hood Bolted Steel Tank Vent Screen	D	March 10, 2019	Retire the existing Horizontal Robin Hood tank and replace with a 6-inch regulator and 2-inch bypass regulator	2019/2023	$130,800	3.6
Robin Hood Bolted Steel Tank Drain	C	During Next Rehab				
Robin Hood Bolted Steel Tank Removal/Replacement	A	March 20, 2019				
Hill House Tank Site	N/A	May 10, 2019	Vegetation cleared	Completed	-	3.4
Hill House Tank Cross Connection Verification	D	April 10, 2019	Verified that no cross connection exists	Completed	-	3.4
China Grade Tank Connection Verification	D	Written verification by April 10, 2019	Verified that no cross connection exists	Completed	-	3.9

Deficiency Identified	Order of Hazard	Date to Address Deficiency	Proposed Corrective Action			
			Description	Schedule	Cost	Memo Section Reference
China Grade Tank Roof Lid Lock	D	March 10, 2019	Roof lid lock installed	Completed	-	3.9
Rancho Dia Tank Rehabilitation/Replacement Plan	A	Rehabilitation/ Replacement Plan by May 10, 2019	Replace Rancho Dia Tank with 10,000 gallon polyethylene tank with seismic anchorage	2019	$74,300	3.10
Rancho Dia Tank Interim Operation Requirements	N/A	Immediately				
Rancho Dia Tank Vent Screen	A	February 10, 2019				
Rancho Dia Tank Site	D	May 10, 2019				
Rancho Dia Tank Leaks	C	March 10, 2019				
Rancho Dia Tank Cleaning	B	June 10, 2019				
Oberst Tank Replacement Plan	A	May 10, 2019	Replace Oberst Tank with 10,000 gallon polyethylene tank with seismic anchorage	2019	$64,600	3.11
Oberst Tank Roof Vent Screen	D	January 30, 2019				
Bloom Grade Tank Ownership Status and Fence Removal	B	Written verification of ownership status by April 10, 2019	BBWC working with property owner to verify	2019	-	3.12
Bloom Grade Tank Cross Connection Verification	C	Written verification by April 10, 2019	Confirmed no cross connection present	Completed	-	3.12
Bloom Grade Tank Drain	C	September 10, 2019	Sample tap and drain to be installed with other site improvements	2021	$23,500	3.12
Bloom Grade Tank Sample Tap	D	May 10, 2019				3.12
Storage Tank Inspections	C	Now	BBWC will increase its tank inspection efforts to meet DDW requirements	Ongoing	-	4.2
SURFACE WATER TREATMENT						
Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement	A	Plan by 4/10/19 Completed by 2/10/20	BBWC will consult with a professional engineering firm to prepare a Water Treatment Facilities Plan and provide long-term recommendations	2020	$50,000	4.3
Updated Surface Water Treatment Plant Operations Plan	B	6/10/19	BBWC will consult with a professional engineering consultant to updated SOPs and Operations Plan after improvements to existing Microfloc treatment plant are completed by WesTech® (see Section 4.3)	2021	$25,000	4.4
Settled Water Turbidity	N/A	Now				
pH Monitoring	C	4/10/19				
Daily pH and Temperature Monitoring	C	Immediately				
Chlorine Residual Grab Sampling and Reporting	N/A	Now				
Clarifier and Filter Loading Rates	N/A	Feb 2019				
Jamison WTP Filter Unit Clarification Media Screen	A	3/10/19	Repair filters, replace PLCs, install EPA approved total chlorine analyzer, clean building and repair holes, replace existing turbidimeter	2020	$236,300	3.5
Online Chlorine Residual Analyzer	A	3/10/19				
Jamison WTP Building	B	9/10/19				
Jamison WTP Cleaning	A	2/10/19 & Continuously				
Jamison WTP Turbidimeter	B	11/10/19				
Distribution System Chlorine Residual	A	Immediately	Increased system chlorine residual	Completed	-	4.5

Deficiency Identified	Order of Hazard	Date to Address Deficiency	Proposed Corrective Action			
			Description	Schedule	Cost	Memo Section Reference
Filter Effluent Line Cross Connection Evaluation	D	7/10/19	BBWC confirmed that no cross connection exists (JIM TO CONFIRM)	Completed	-	-
Backwash Tank Cross Connection(s)	C	4/10/19	BBWC confirmed that no cross connection exists (JIM TO CONFIRM)	Completed	-	-
October 9, 2018 Chlorine Residual	N/A	2/15/19	Completed and mailed to DDW on XX/XX/XX	Completed	-	-
Jamison WTP Cats	B	2/20/19	BBWC to develop a comprehensive long-term Vector Control Plan		See Section 3.5	
Jamison WTP Chemical Storage Tank Water Line	C	5/10/19	BBWC to install new chemical storage platform and containment	2020	$149,000	3.5.1
Jamison WTP Chemical Storage Tanks and Storage	B	5/10/19				
Cross Connection Control Operating Rules	A	6/10/19	BBWC to prepare new Rules and Standards for Cross Connection in the service area for approval by CPUC; after which BBWC will complete a system wide survey and inventory backflow equipment	2019	$25,000	4.6
Cross Connection Control Survey	A	10/10/19				
Backflow Prevention Assembly Inventory	A	6/10/19				
OTHER						
2017 Consumer Confidence Report Certification	C	2/15/2019	BBWC provided to DDW on XX/XX/XX	2019	-	-
Watershed Sanitary Survey	C	12/31/2019	BBWC to engage professional engineering consultant to prepare	2021	$25,000	4.7
Source Capacity	B	12/31/2019	BBWC to engage professional engineering consultant to prepare	2020	$25,000	4.8
Records	D	Now	BBWC working to improve recordkeeping procedures	Ongoing	-	4.9
Overdue 2018 Source Monitoring	C	1/31/2019	BBWC provided to DDW on XX/XX/XX	2019	-	-
LIST OF RECOMMENDATIONS						
Photos	-	-	BBWC to prepare and provide to DDW by end of 2019	2019	-	-
Robin Hood Tank Foundation	-	-	BBWC to engage to professional engineer to evaluate as budget allows	2023	$10,000	-
Hill House Tank Foundation	-	-	Install seismic restraint system	2022	$34,200	3.4
Hill House Tank Fence	-	-	Install ~170 ft of fence, a 12-ft swing gate, and ~400 sf gravel road			
China Grade Tank Fence	-	-	Install ~145 ft of fence, a 12-ft swing gate, and ~1,000 sf gravel road	2022	$24,200	3.9
Bloom Grade Tank Fence	-	-	Install ~170 ft of fence, a 12-ft swing gate, and ~8,000 sf gravel road	2021	$48,300	3.12
Jamison WTP IFE Turbidimeter	-	-	Install a turbidimeter on the effluent end of each filter unit		See Section 3.5	
Jamison WTP Backup Turbidimeter	-	-	Purchase one backup turbidimeter		See Section 3.5	
Jamison WTP Generator	-	-	BBWC to evaluate as part of long term facilities plan		See Section 3.5.2	
Jamison WTP Site Security	-	-	Install 950 ft of fence, a 20-ft double swing gate, and a 20-ft barrier gate	2022	$119,300	3.5.2
Inactive Sources	-	-	BBWC to retire Well # 1 and evaluate Well # 2 for restoration	2023	$26,200	3.15
Isolation Valves	-	-	Install 20 line valves	2020 - 2024	$231,000	3.13
Operator Staffing	-	-	BBWC evaluating hiring/contracting additional staff	2020	-	4.10
Emergency Response Plan	-	-	BBWC to engage professional consultant to prepare	2022	$20,000	4.11
Distribution Main Replacement Plan	-	-	BBWC replacing mains as part of a long term asset management program	Ongoing	TBD	3.14
Cross Connection Specialist	-	-	Will contract with a cross connection specialist		See Section 4.6	

Commented [WJ6]: If this is complete, make a note stating that it is complete and what work was performed

Commented [WJ7]: If this is complete, make a note stating that it is complete and what work was performed

Commented [WJ8]: Add date

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Commented [WJ10]: Add date

Corrective Action Projected Costs and Schedule of Improvements

The following table is a summary of the costs and schedule for the proposed corrective actions.

Project	2019	2020	2021	2022	2023	2024	TOTAL
Well 4 Chlorination		$253,900					**$253,900**
Corvin Creek Intake Sedimentation Tank			$15,800				**$15,800**
Jamison Intake 1 Sedimentation Tank			$15,800				**$15,800**
Jamison Intake 2 Screen							
Jamison Intake 2 Transmission Line			$95,500				**$95,500**
Jamison Intake 1 Transmission Line							
Jamison Reservoir Cross Connection	$22,200						**$22,200**
Galleon Heights Booster Station Housing			$125,200				**$125,200**
Galleon Heights Booster Pump Plan							
Tradewinds Booster Station Waterlogged Pressure Tanks							
Tradewinds Booster Station Piping and Valving Corrosion			$136,400				**$136,400**
Tradewinds Booster Station Generator							
Galleon Tank Power and Level Transducer			$61,400				**$61,400**
Galleon Tank Overflow							
Robin Hood Bolted Steel Tank Roof Hatch Seal							
Robin Hood Bolted Steel Tank Vent Screen	$19,500				$111,300		**$130,800**
Robin Hood Bolted Steel Tank Drain							
Robin Hood Bolted Steel Tank Removal/Replacement							
Rancho Dia Tank Rehabilitation/Replacement Plan							
Rancho Dia Tank Interim Operation Requirements							
Rancho Dia Tank Vent Screen	$74,300						**$74,300**
Rancho Dia Tank Site							
Rancho Dia Tank Leaks							
Rancho Dia Tank Cleaning							
Oberst Tank Replacement Plan	$64,600						**$64,600**
Oberst Tank Roof Vent Screen							
Bloom Grade Tank Drain and Sample Tap			$23,500				**$23,500**

Project	2019	2020	2021	2022	2023	2024	TOTAL
Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement		$50,000					**$50,000**
Updated Surface Water Treatment Plant Operations Plan			$25,000				**$25,000**
Jamison WTP Building Repairs, Filter Unit Repairs, Chlorine Analyzer, Turbidimeters		$236,300					**$236,300**
Jamison WTP Chemical Storage Tanks and Storage		$149,000					**$149,000**
Cross Connection Control Operating Rules							
Cross Connection Control Survey	$25,000						**$25,000**
Backflow Prevention Assembly Inventory							
Watershed Sanitary Survey			$25,000				**$25,000**
Source Capacity		$25,000					**$25,000**
Robin Hood Tank Foundation					$10,000		**$10,000**
Hill House Tank Foundation							
Hill House Tank Fence				$34,200			**$34,200**
China Grade Tank Fence				$24,200			**$24,200**
Bloom Grade Tank Fence			$48,300				**$48,300**
Jamison Station Fence				$119,300			**$119,300**
Inactive Sources					$26,200		**$26,200**
Isolation Valves		$46,200	$46,200	$46,200	$46,200	$46,200	**$231,000**
Distribution Main Replacement Plan				$270,000	$270,000	$270,000	**$810,000**
Emergency Response Plan				$20,000			**$20,000**
Estimated Capital Expenditures (Present Value)	**$ 205,600**	**$760,400**	**$ 618,100**	**$ 513,900**	**$463,700**	**$316,200**	**$2,877,900**

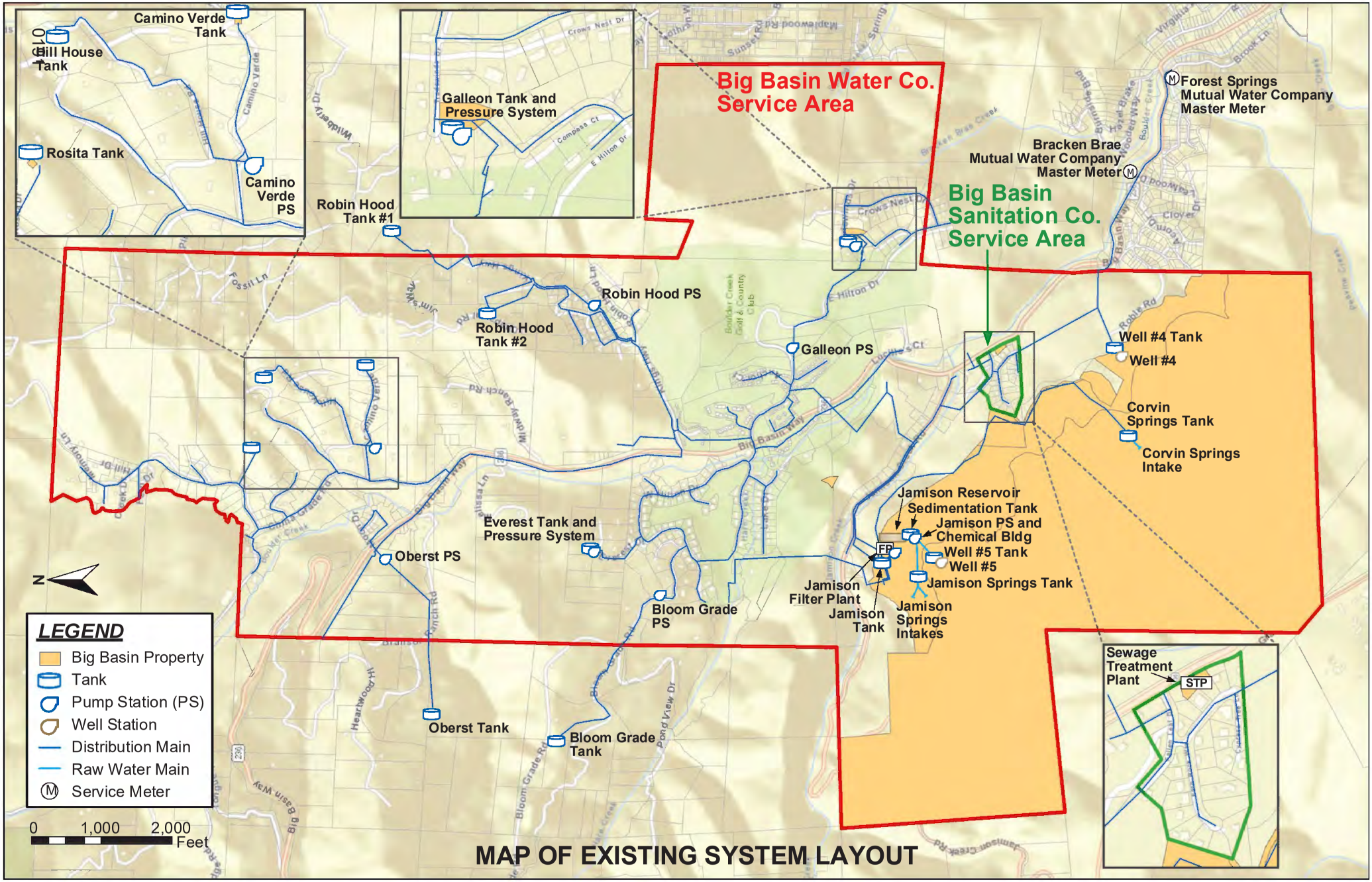
Items for Jim to address are highlighted in the DDW response document.

Photos for Jim to insert into the document:

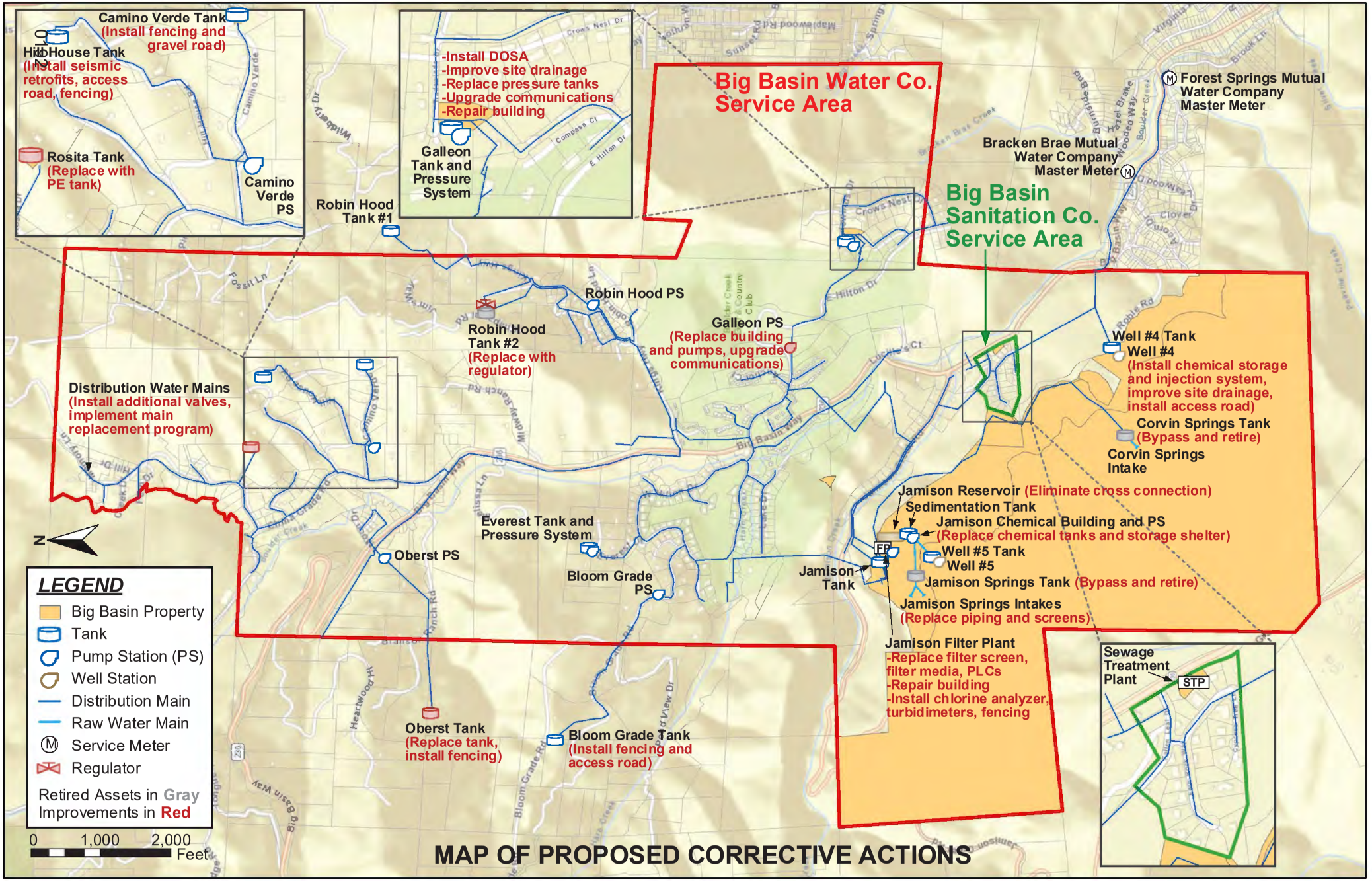
- Section 3.4, Figure 3 – Photo showing vegetation cleared around Hill House Tank
- Section 3.8.1, Figure 6 – Photo showing hatch gasket seal on Galleon Heights Tank
- Section 3.8.1, Figure 7 – Photo showing #24 mesh vent screen on Galleon Heights Tank
- Section 3.8.1, Figure 8 – Photo showing greater clearance between pipe and ground (cut and screened overflow pipe)
- Section 3.12, Figure 13 – Photo showing that there is no cross connection between Bloom Grade Tank and neighbor's tank

In Table on Page 24, for Jim to confirm and provide evidence to DDW:

- Confirm and provide evidence that there is no cross connection between the filtered water line and backwash line
- Confirm and provide evidence that there is no cross connection between backwash water storage tank and Jamison Reservoir
- Confirm that the October 9, 2018 Chlorine Residual report was sent to DDW and update table in response document
- Confirm that the 2017 Consumer Confidence Report Certification was sent to DDW
- Confirm that the overdue 2018 Source Monitoring report was sent to DDW



MAP OF EXISTING SYSTEM LAYOUT


Big Basin Water Co. Service Area
Big Basin Sanitation Co. Service Area
Camino Verde Tank (Install fencing and gravel road)
Hill House Tank (Install seismic retrofits, access road, fencing)
Rosita Tank (Replace with PE tank)
Camino Verde PS
-Install DOSA
-Improve site drainage
-Replace pressure tanks
-Upgrade communications
-Repair building
Galleon Tank and Pressure System
Robin Hood Tank #1
Robin Hood PS
Robin Hood Tank #2 (Replace with regulator)
Galleon PS (Replace building and pumps, upgrade communications)
Distribution Water Mains (Install additional valves, implement main replacement program)
Everest Tank and Pressure System
Oberst PS
Bloom Grade PS
Oberst Tank (Replace tank, install fencing)
Bloom Grade Tank (Install fencing and access road)
Jamison Reservoir (Eliminate cross connection)
Sedimentation Tank
Jamison Chemical Building and PS (Replace chemical tanks and storage shelter)
Well #5 Tank
Well #5
Jamison Springs Tank (Bypass and retire)
Jamison Springs Intakes (Replace piping and screens)
Jamison Tank
Jamison Filter Plant
-Replace filter screen, filter media, PLCs
-Repair building
-Install chlorine analyzer, turbidimeters, fencing
Well #4 Tank
Well #4 (Install chemical storage and injection system, improve site drainage, install access road)
Corvin Springs Tank (Bypass and retire)
Corvin Springs Intake
Forest Springs Mutual Water Company Master Meter
Bracken Brae Mutual Water Company Master Meter
Sewage Treatment Plant
STP
LEGEND
Big Basin Property
Tank
Pump Station (PS)
Well Station
Distribution Main
Raw Water Main
Service Meter
Regulator
Retired Assets in Gray
Improvements in Red
0 1,000 2,000 Feet
MAP OF PROPOSED CORRECTIVE ACTIONS

APPENDIX 2: MONTHLY PROGRESS REPORT

Water System: **Big Basin Water Company**	Water System No: **4410001**
Compliance Order No.	Violation:
Calendar Quarter:	Date:

This form should be prepared and signed by Big Basin Water Company personnel with appropriate authority to implement the directives of the Compliance Order and the Corrective Action Plan. Please attach additional sheets as necessary. The quarterly progress report must be submitted by the 10th day of each subsequent quarter, to the Division of Drinking Water, Monterey District Office to the following email address: dwpdist05@waterboards.ca.gov titled appropriately.

Summary of Compliance Plan:

Tasks completed in the reporting quarter:

Tasks remaining to complete:

Anticipated compliance date:	

Printed Name **Signature**

Title **Date**

APPENDIX 3 - Notification of Receipt

Compliance Order Number: 02_05_21R_001
Name of Water System: Big Basin Water Company

System Number: 4410001

Certification

I certify that I am an authorized representative of the Big Basin Water Company and that Compliance Order No. 02_05_21R_001 was received on _____.

Further I certify that the Order has been reviewed by the appropriate management staff of the Big Basin Water Company and it is clearly understood that Compliance Order No. 02_05_21R_001 contains legally enforceable directives with specific due dates.

_____ _____

Signature of Water System Representative Date

**THIS FORM MUST BE COMPLETED AND RETURNED TO THE STATE WATER BOARD,
DIVISION OF DRINKING WATER, NO LATER THAN April 27, 2021**

Disclosure: Be advised that the California Health and Safety Code, Sections 116725 and 116730 state that any person who knowingly makes any false statement on any report or document submitted for the purpose of compliance with the Safe Drinking Water Act may be liable for, respectively, a civil penalty not to exceed five thousand dollars ($5,000) for each separate violation or, for continuing violations, for each day that violation continues, or be punished by a fine of not more than $25,000 for each day of violation, or by imprisonment in the county jail not to exceed one year, or by both the fine and imprisonment.

EXHIBIT H

Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006

June 10, 2021

Jonathan Weininger, PE
District Engineer, Monterey District Office, DDW
1 Lower Ragsdale Drive, Building 1, Suite 120
Monterey, CA 93940

RE: Request for Alternative Compliance Schedule for Compliance Order No. 02_05_21R_001
Big Basin Water Company (No. 4410001)

Dear Mr. Weininger,

Please accept this letter as Big Basin Water Company's formal request for an alternative compliance schedule to the compliance timeframes contained within the subject Compliance Order (CO). Big Basin Water Company has commenced with efforts to respond to the directives contained with the CO, especially Directive No. 2 that required a contingency plan to secure a temporary water supply in the event of an outage or failure of Well No. 4. Big Basin, in cooperation with TRA Water Operations, Inc., has engaged a California licensed engineering consultant, Lumos and Associates, Inc., to assist with addressing the directives in the CO, including most recently preparation of the contingency plan pursuant to CO Directive 2. The contingency plan was submitted to your office for review on May 10, 2021.

We are now in receipt of your May 27, 2021 review letter that includes comments on the proposed contingency plan and additional required submittals to support the Division of Drinking Water's (DDW) review of the proposed temporary treatment system. The review letter included the following four required submittals that Big Basin is presently completing:

1. Comment response letter – Due 6/10/21 (Attached)
2. Details about a potential connection with San Lorenzo Valley Water District (SLVWD) – Due 6/10/21 (Attached)
3. Permit Amendment Application – In Process:
    a. Application – In process, anticipated 6/18/21
    b. Basis of Design Report – In process, draft anticipated 6/18/21
    c. SWT Operations Plan – In process, draft anticipated 6/18/21
    d. Construction Plans – In process, anticipated 6/18/21
    e. Disinfection – to be completed prior to startup following DDW approval of items a-d.
    f. DDW Site Visit – to be scheduled following DDW approval of items a-d.
4. Updated watershed sanitary survey – Due July 10, 2021. This will be completed following the completion of the above items.

As you are aware, Big Basin presently has just a single source of water – Well No. 4. Big Basin has implemented water conservation measures in anticipation of the higher demands during the summer months to help alleviate demands on the well. Big Basin has secured a temporary water treatment system consisting of an ultra-filtration membrane process as supplied by WesTech and Lumos and Associates, Inc. is presently preparing the above-mentioned documents in order to secure DDW's review and approval of this emergency treatment system installation. As a result, all Big Basin's available resources are fully occupied with the effort to complete DDW's required submittals in order to bring the temporary treatment system online as soon as possible. Given this situation, and the efforts made by Big Basin to response to the CO, Big Basin is requesting your consideration and approval of an alternative compliance schedule as outlined below:

Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006

Big Basin is presently under the following directives in the CO for which an alternative compliance schedule is being requested:

1. Compliance Action Plan – Due 6/10/21 **Proposed alternative due date: 8/10/21**
    a. Source Capacity Requirements
    b. Schedule for removal/replacement of fire damaged infrastructure
    c. Financial capacity analysis
2. Contingency Plan – Due 5/10/21. **Submitted 5/10/21. As described above, Big Basin is presently working on addressing the items included in DDW's 5/27/21 response letter.**
3. Schedule for completing corrective actions in 2018 Sanitary Survey Letter – Due 6/10/21 **Proposed alternative due date: 8/10/21**
4. Operations and Maintenance Plan – Due 7/10/21 **Proposed alternative due date: 9/10/21**
    a. Water Supply Emergencies
    b. Well 4 and Chlorination System
    c. Flushing Schedule & Procedure
    d. Routine Inspection of Tanks
    e. Inspecting/Repairing/Replacing Mains
    f. Consumer Complaint Response
    g. Valve Exercise Program
    h. Source flow meters and online instruments
    i. Qualifications and Training of Personnel
5. Permit Amendment for Additional Source of Water – Due 9/10/21 **Proposed alternative due date: 1/10/22. Due to fire damage of all sources except for Well No. 4, in addition to a significant loss of water service connections and reduced occupancy, Big Basin requests additional time to evaluate rehabilitation of existing water sources (e.g. – horizontal well, Corvin Creek) prior to completing an investigation and permit amendment for an additional source of water.**
6. Perform actions in prior DDW Corrective Action Plan – Due within the timeframes established in the Corrective Action Plan. **Due to funding considerations and the significant amount of damages incurred following the CZU Lightning Complex Fire, Big Basin requests that this directive be placed on hold until a formal Preliminary Engineering Report (PER) can be prepared. The PER would ascertain the extent of damages to the Big Basin system and evaluate alternatives to mitigate system deficiencies and address the prior action items that remain post-fire. The PER would also provide an evaluation of potential funding mechanisms that may be available. Big Basin proposes providing a status update on this directive by 12/10/21.**
7. Monthly Progress Reports (Big Basin) – Due Monthly. **No change requested.**
8. Notification of Receipt (Big Basin) – Due 3/27/21. **No change requested.**

Thank you for your consideration of the above and your understanding of the exceptional circumstances facing Big Basin at this time. Big Basin is proceeding in earnest to address the most pressing concern at this time – securing an additional source of water to alleviate the current demand on Well No. 4. Should you have any questions, please contact Jim Moore at (831) 338-2933 or by email at bbwater197@yahoo.com.

Sincerely,

Jim Moore

Jim Moore, Chief Operator/Owner
Big Basin Water Company

LUMOS

Carson City • Fallon • Lake Tahoe • Reno

www.LumosInc.com

Carson City
308 N. Curry Street, Suite 200
Carson City, Nevada 89703
775.883.7077

June 10, 2021

Jonathan Weininger, PE
District Engineer, Monterey District Office, DDW
1 Lower Ragsdale Drive, Building 1, Suite 120
Monterey, CA 93940

c/o Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
Bbwater197@yahoo.com

Subject: Comment Response for Short Term Contingency Plan
Big Basin Water Company, System Number 4410001

Dear Jonathan Weininger:

Thank you for your recent review of the contingency plan to secure a temporary source of water supply for Big Basin Water (Directive 2, Compliance Order No. 02_05_21R_001, Dated 4/9/2021). This letter provides response to the review comments provided in your letter, dated 5/27/2021. Our response are provide in **bold** text below.

1. The proposal must comply with all applicable surface water treatment regulations (California Code of Regulations (CCR), Title 22, Chapter 17) and must be constructed in accordance with California Code of Regulations, Titles 17 and 22, specifically:
    a. Design standards for new surface water treatment plants - California Code of Regulations, Title 22, Sections 64658 and 64659

       The proposed temporary treatment system design will comply with CCR Title 22, § 64658 & 64659. Compliance will be documented in the forthcoming Basis of Design Report and temporary design package.

    b. Waterworks standards - California Code of Regulations, Title 22, Division 4, Chapter 16

       The proposed temporary treatment system will be in accordance with CCR Title 22, Division 4, Chapter 16 – Waterworks Standards. Compliance will be documented in the forthcoming Basis of Design Report and temporary design package.

    c. Backflow prevention assemblies must be selected in accordance with CCR, Title 17, Section 7601 (USC approved, and California lead free) and installed in accordance with California Code of Regulations, Title 17, Section 7603. Treatment plant backflow prevention assemblies must be installed so they can be accessible and easily tested.

       The proposed temporary treatment system will be equipped with compliant backflow prevention measures in accordance with CCR Title 17, § 7601.

Compliance will be documented in the forthcoming Basis of Design Report and temporary design package.

2. Provide a timeline on the duration of the temporary surface water treatment plant installation.

   The temporary treatment system arrived onsite the week of June 1, 2021. Big Basin Water Co. and Lumos & Associates are currently working on completing the permit amendment application, Basis of Design Report, and emergency plans/specifications for the proposed temporary water treatment system. The water treatment system will be constructed, disinfected, tested, connected to the system, and placed into beneficial use following approval from Division of Drinking Water (DDW). The system will remain in place until a long-term water supply solution for Big Basin Water Company has been approved and installed.

3. The selected membrane, Toray HFUG-2020AN, is not on the State Water Board's Alternative Filtration Technology (AFT) conditionally accepted list (Selected Drinking Water Program Publications| California State Water Resources Control Board). Big Basin WC must propose a filtration technology that is either approved in regulation or conditionally accepted for this temporary surface water treatment plant.

   The proposed system will use Toray HFU-2020AN membrane modules. These modules are identical to the conditionally approval HFU-2020N membrane modules except that the housing color has changed from beige to white and the endcaps are in one piece instead of two pieces (see attached letter from CDPH). Separately, WesTech/Toray will continue to pursue DDW's conditional approval for the previously proposed HFUG-2020AN modules for possible inclusion in the long-term treatment solution for Big Basin. The HFUG-2020AN has NSF61 and NSF419 certifications.

4. If a tank is used to meet the pathogen inactivation requirements, please provide contact time calculations for the worst case scenario using a default baffling factor of 0.1, the lowest expected water level in the tank (according to alarms), peak hourly flow out of the tank, highest pH, lowest temperature, and lowest chlorine residual (according to alarms).

   A new chlorine contactor consisting of NSF certified 30-inch diameter HDPE pipe to be located adjacent to the temporary treatment system will be proposed for pathogen inactivation. CT calculations and baffling factor assumptions will be documented in a pending basis of design report and improvement plans for the system. Under this approach, the existing Jamison bolted steel storage tank will used solely for distribution storage and not require a minimum water level for CT compliance. This approach will provide greater operational flexibility during the current higher demand season.

5. Include a post-fire assessment of the interior condition of Jamison bolted steel tank and explain if the tank will be used in the system.

   An assessment of the interior condition of the Jamison bolted steel tank will be performed by Big Basin Water Company. There are no visible leaks on the outside

of the tank, no signs of fire damage to the structure or coating on the exterior of the tanks, and it appears to be in good working condition from the outside.

6. Clarify which raw water source(s) will be treated at the temporary surface water treatment plant. According to a previous discussion, the Corvin Creek, Well 05, and the Jamison Springs "right creek" are inoperable due to fire damage. To proceed with using Jamison Springs "left creek", please send the Division an overview of all damaged infrastructure that was repaired or replaced, including photos. Please also include how the raw water source will be metered and project the anticipated yield, in gallons per minute, during the 2021 calendar year.

   Presently only "Left Creek" is available for treatment at the temporary surface water treatment plant. This is solely because the intake structure on Left Creek is operable at this time. Once the intake structure for Right Creek has been cleaned, repaired, and equipped with new NSF certified conveyance piping (PVC), Right Creek will also be available for treatment at the temporary surface water treatment plant. At this time Corvin Creek and Well 5 (horizontal well) will not be used as raw water sources for the temporary water treatment plant.

   Individual metering of the raw water sources (Left and Right Creeks) is not proposed at this time as the total combined duty for these sources is in excess of the treatment capacity of the temporary membrane system. However, the water treatment system will be equipped with a flow meter for operational feedback, used for compliance calculations, and reported with routine compliance reports. Excess raw water will continue to flow to Jamison Reservoir. Ultimately, a long-term treatment system will be designed that can maximize the available surface water resources for Big Basin Water Company.

7. The selected membrane filtration system must perform a daily automated Direct Integrity Test (DIT). The test pressure must be high enough to detect a 3-micron breach (pressure decay test to meet LT2 requirements)

   The membrane skid has the capability to automatically perform daily pressure decay tests (PDTs) which satisfy the LT2 – EPA membrane Filtration Guidance Manual requirements. PDT's can be scheduled to run automatically but can also be manually initiated if the operator would like to be present to look for bubbles or listen for leaks. The Upper Control Limit (UCL) is calculated for each system and is based on the Log Removal Credit required by the UF equipment, the volume of the modules and the piping pressurized during the test, the system flow rate and other module-specific parameters. The PDT typically takes 10 minutes to perform and the final value is displayed on the screen until the next PDT is performed. The operator must record the value and compare it against the UCL, to ensure membrane integrity. If the PDT result is higher than the alarm set-point, the skid will be shut down until the operator can inspect it.

8. Describe the prefiltration process and the basis of design for selecting the 200-micron prefilter, specifically discuss how this prefilter is sufficient to protect the membranes.

   The membrane system will be equipped with an automatic self-cleaning strainer. The size and configuration of the pre-filtration process, including sedimentation

and flocculation basin(s), will be justified in the forthcoming Basis of Design Report and emergency plans/specifications for the proposed temporary water treatment system.

9. Provide details about the portable treatment plant's previous use(s).

   The proposed temporary treatment equipment has only been used at drinking water sites for piloting purposes. The system has been fully flushed in the WesTech facility prior to disassembly and shipment to Big Basin.

10. Recommendations:
    a. The Division recommends that the flux rate be limited to 50 to 70% of the maximum approved flux rate to reduce fouling.

       From a design perspective, Lumos & Associates agrees that this is a good target. However, given the current conditions, limited availability/options for temporary filtration units, and current emergency conditions, the Water Company may be required to operate the proposed system at flux rates in excess of 70%. This will be dependent on actual system demand, operational controls (multiple treatment rate setpoints compared to a single operational treatment rate setpoint), and backwash frequency. Please keep in mind, when the proposed system is brought online, the Water Company will maintain Well 4 as a backup water supply. Discussion and justification for these conditions will be included in the forthcoming Basis of Design Report.

    b. The treatment proposal does not include disinfection byproduct mitigation. The Division recommends Big Basin WC evaluate disinfection byproduct precursor removal as part of the treatment optimization process using available resources including those provided by the USEPA.

       From available water quality results, total organic carbon (TOC) concentrations are relatively low and it is not anticipated that DBPs will be a significant issue. However, provisions for coagulant dosing and a flocculation tank(s) upstream of the membranes will be included in the pending basis of design report and improvement plans for the temporary treatment system. Disinfection byproducts will be monitored via finish water quality samples and operational changes can be made as needed.

Additionally, the Division received correspondence from San Lorenzo Valley Water District (SLVWD) about the possibility of installing an emergency interconnection between SLVWD and Big Basin WC. Please send the Division details about the connection, including diameter, length, capacity, location, use restrictions, and a project schedule by June 10, 2021.

During the site visit conducted on 5/17/21, Lumos visited the potential point of interconnection between Big Basin and SLVWD's systems. The potential site is located near the intersection of Highway 236 and Brook Lane. Big Basin has limited infrastructure at this location, consisting of a 4-inch PVC pipe stubbed within an underground valve vault. Fire damage at this location was observed, having destroyed

an adjacent electrical meter and a portion of exposed PVC pipe. An existing pressure gage indicated that Big Basin's system pressure at this location was potentially in excess of 200 PSI (gage limit). Based upon limited topographical information available, hydraulic gradients from the Jamison and Galleon Tanks could produce an estimated residual pressure of approximately 170 PSI and 240 PSI, respectively, at this location.

The current system pressure in SLVWD's system is unknown, however, assuming that SLVWD has a residual pressure of 40 PSI at this location, the intertie could require 60 horsepower or greater (especially when considering potential line losses from this distal location to the nearest storage tank) pumps in order to supply water at the max day demand of 430 GPM (.62 MGD). Pumps of this size would likely require 3-phase electrical service to satisfy the electrical Utility's requirements, which may not be available. Further, private property, limited right of way, an existing bridge and water crossing, as well as potential impacts to Cal-Trans right of way on Highway 236 significantly restrain the site.

Given the above considerations, an intertie at this location would require significant planning, design, construction costs, as well as contractual negotiations between Big Basin Water Company and SLVWD. Based upon these considerations, an intertie is not considered to be feasible at this location and at this time in order to address Big Basin's current pressing source capacity challenges.

If you have any questions, please do not hesitate to contact me at 775.883.7077.

Sincerely,

Jonathan Lesperance, PE
Engineering Group Manager

CC: Tom Adcock, Tom R. Adcock Water Operations, Inc.

EXHIBIT I

Big Basin Water Company

2021 Watershed Sanitary Survey Update

October, 2021

Prepared For:

Big Basin Water Company
PO Box 197
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Prepared By:

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BIG BASIN WATER COMPANY – 2021 WATERSHED SANITARY SURVEY UPDATE

1. BACKGROUND & SUMMARY

Big Basin Water Company (BBWC) owns and operates California Public Water System CA4410001. BBWC is a small privately owned water company with approximately 580 connections. The service area is located in the Santa Cruz Mountains, approximately three miles north of the town of Boulder Creek. BBWC privately owns parcels nearly encompassing the entire source watershed for its three (3) current surface water sources: Jamison Springs North and South, and Corvin Creek. Being private property, recreation is generally prohibited within the watershed. BBWC controls the access to the watershed via locked gates located along State Route 236 – Big Basin Highway and Jamison Creek Road. Both roads parallel Jamison Creek adjacent to BBWC's source watersheds.

As required by the California Surface Water Treatment Regulation (SWTR), water suppliers using surface water as a source of water supply must conduct an initial Watershed Sanitary Survey (WSS) and prepare updates every five years. Big Basin Water Company prepared an initial WSS, although a copy of that document is no longer available. An update to the original WSS was subsequently prepared by BBWC in March of 2006. Thomas J. Moore, the owner of BBWC, conducted the initial WSS and the 2006 update, employing a pedestrian survey of entire watershed in addition to records furnished by others. This 2021 WSS update has generally been prepared with guidance from the Watershed Sanitary Survey Guidance Manual (1993 AWWA California-Nevada Section) [1]. The study for this WSS was conducted by Lumos and Associates, Inc. (Lumos). Lumos staff employed a partial watershed pedestrian survey at both surface water intakes, in addition to a windshield survey of portions of the surrounding watershed viewable from SR236 and Jamison Creek Road. Additional survey methods included desktop survey of available records.

Potential contaminants in BBWC's watersheds primarily include Giardia and Cryptosporidium from wildlife (primarily deer and wild pigs) naturally occurring in the area. Most recently, wildfire has become a significant concern for the watershed's water quality. Following the CZU complex wildland fire in 2020, nearly the entire BBWC source watershed area was severely burned and ultimately destroyed the Jamison Surface Water Treatment Plant. The post-fire watershed conditions can contribute to surface water quality contamination as loose soil and organic debris are more readily transported through the watershed following precipitation and runoff events. As a result, recommendations for improved timber management, hydraulic modeling for fire flow capacity and storage analysis along with fuel management around critical infrastructure are included in this WSS update.

Prior to the 2020 CZU wildfire, BBWC's surface water supply system consisted of three raw water intakes, two of which were located on Jamison Springs and the third was located at Corvin Creek. The system originally included a surface water treatment plant (SWTP) consisting of high rate package filtration that treated water from the three surface water sources – i.e. Jamison Springs North and South, and Corvin Creek. The surface water treatment plant was destroyed in the CZU fire. Additionally, both raw water conveyance systems from each intake were destroyed, although the intake and raw water conveyance pipeline on Jamison Springs North and South has been recently repaired. Based upon information available, the Jamison SWT plant was able to achieve regulatory compliance for known contaminants prior to the CZU wildfire.

1.1 WSS UPDATE OBJECTIVE

The objective of this WSS update, in addition to compliance with the SWTR, is consistent with the objective delineated in the 2006 update: to identify problems that are present in the watershed that may present a danger to water quality so that BBWC can implement measures to mitigate these problems and protect its source water quality [2].

1.2 SUMMARY OF CHANGES FROM 2006 WSS UPDATE

The primary change in the watershed discussed in this WSS update is the 2020 CZU Complex wildland fire that burned extensively through the BBWC service territory and caused extensive damage throughout each of BBWC's primary source watersheds. Notably, the Jamison SWTP was completely destroyed, leaving BBWC with only its groundwater sources available to provide source water capacity, primarily through Well No. 4.

Typical fire damage in the watersheds.

For this WSS update, only surface water sources have been considered, and a discussion on BBWC's wells are not included as the changes to the watershed are not anticipated to have impacts on BBWC's groundwater sources due to the separation of the aquifer from the surface water sources.

The other significant change within this WSS update from the 2006 update is the assessment of the actual source watersheds as separate drainage basins within the overall drainage basin encompassed by BBWC's service territory. These basins were assessed separately in order to better define the hydrographic extents of surface water influence up to the point of diversion for BBWC at its surface water intakes.

2. WATERSHED DESCRIPTION

Big Basin Water Company's source water is derived from two (2) primary drainage basins or watersheds. These watersheds are the Jamison Springs watershed, which has two perennial creeks that confluence as a single tributary to Jamison Creek. Raw water is collected separately from each creek prior to their confluence. The creeks are referred to as Jamison Springs North and South. The Jamison Springs watershed has a drainage area of approximately 217 acres and drains northwesterly towards an outfall at Jamison Creek below Jamison Creek Road. The watershed is situated with a

north by northeasterly aspect. The second primary watershed is the Corvin Creek watershed, located southeast of the Jamison Springs watershed. The Corvin Creek watershed has a drainage area of approximately 111 acres that generally drains to the north east with an outfall at Boulder Creek located below State Route 236 and downstream of the confluence of Jamison Creek and Boulder Creek. The watershed is situated with a northeasterly aspect.

2.1 Watershed Land Use and Natural Setting

BBWC is the largest land owner in the vicinity of its two source watersheds. The watersheds are bounded to the north and west by smaller adjacent private parcels with the Big Basin Redwoods State Park located slightly further to the northwest. South of BBWC's watersheds are a couple small private parcels, a state-owned parcel, and a very large private land trust. Most of the properties south of BBWC's watersheds are situated on the opposite side of the Ben Lomond Mountain divide. The San Lorenzo Valley Water District owns a large parcel of land located immediately southeast of BBWC's property. East of the BBWC property are several smaller privately owned parcels. It should be noted that all of the properties to the east BBWC are either situated at a lower elevation than the raw water intakes or are separated from the watershed by Jamison and Boulder Creeks. That is to say, none of the properties to the east pose a risk of source water contamination as a result of being hydrographically separated from BBWC's source watersheds.

There are two undeveloped private parcels that immediately adjoin the property owned by BBWC for the Jamison Springs watershed. These parcels are at least partially hydrographically connected to the Jamison Springs watershed. These parcels appear to have been heavily damaged by CZU Complex wildland fire. There is only one adjoining private parcel at the Corvin Creek watershed. This parcel was previously developed with a single family residence, which appears to have been completely destroyed by the CZU fire. No other development has occurred within the watersheds, and future development that could impact the watershed is unlikely based upon both the limited amount of privately owned land and the extensive damage that occurred from the CZU fire.

Historically, logging has been performed under a non-industrial timber management plan (NTMP). There is oversight for the logging operations performed by Big Basin Water Company, as well as at the County and State level [2]. Logging plans typically identify all potential hazards and all old landslides are mapped and monitored. After the logging and monitoring plan are submitted, the Regional Water Quality Control Board issues a Waste Discharge permit followed by a site visit. Prior to logging activities, CALFIRE, California Department of Fish & Wildlife, County of Santa Cruz, California Division of Mines & Geology, and other state agencies inspect the watershed for compliance with the approved logging and monitoring plan [2].

BBWC has previously operated under a visual photo point and a turbidity monitoring plan for the purpose of monitoring all significant storm events in the first year after implementation of a logging plan. General water quality conditions of the stream are monitored including turbidity measurements and photos of specific problem areas along the stream reach [2]. Given the extent of damage to the forest following the CZU fire, a revised NTMP should be prepared to reduce the potential for hazardous trees as well as implementation of a fuels reduction program.

2.2 Watershed Existing Hydrology

BBWC's watersheds each consist of rugged, heavily forested terrain with elevations ranging from approximately 1,000 feet to 2,500± feet. The watersheds cover a cumulative area of approximately 330± acres on Ben Lomond Mountain. Ben Lomond Mountain generally runs northwest by southeast, with the mountain ridgeline serving as a divide between watersheds that generally drain southwest towards the Pacific Ocean on one side or north east towards

Boulder Creek on the other. In the vicinity of BBWC's watersheds, the Empire Grade roadway traverses along the divide of Ben Lomond Mountain. The soil is predominantly sand and granite with grain sizes ranging from the size of gravel to large rock [2].

The annual precipitation is approximately 60 inches with most rain coming between December and February. The volume of rain occurring over these three months is in excess of system use, which allows Well No. 4 to recharge. Well No. 4 is a primary back-up water source used during summer months.

3. WATER SUPPLY SYSTEM

This section describes BBWC's water supply system, including a brief history of the water system, its raw water sources, water facilities, and emergency plans.

3.1 WATER SYSTEM HISTORY

BBWC started in the 1930's by the Hiltons and sold to McGranahan/McPherson in 1959. The current owners, Jim Moore and Jim McPherson, took over ownership in 1996 [2]. Most of the system is now more than 40 years old. A compliance order (No. 02_05_21R_001_4410001) was issued by the State Water Resources Control Board – Division of Drinking Water (DDW) on April 9, 2021. The compliance order primarily addressed water system deficiencies identified in a 2018 sanitary survey of the water system prior to the loss of significant water infrastructure during the CZU fire. BBWC is presently in the process of addressing the compliance order items, especially those pertaining to source capacity deficiencies [3].

3.2 WATER SYSTEM SOURCES

The water sources for the Big Basin watershed consist of one active vertical well, one horizontal well, and three (3) surface water diversions – Jamison Springs North and South, and Corvin Creek. As described above, the subject of this WSS update are the three surface water sources. These three surface water diversions are on three of five perennial streams occurring within BBWC's property. All three surface water diversions are at approximately 1,200 feet in elevation [2].

3.3 WATER SYSTEM FACILITIES

Prior to the 2020 CZU fire, each diversion consisted of a small concrete dam with a four-inch steel pipe passing through it. The four-inch steel pipes have screening to prevent debris. Jamison Reservoir 1 & 2 and Corvin Springs emptied into a distribution tank with overflow into the Jamison Reservoir. The water from the distribution tank was pumped to the Jamison Filter plant, constructed in 1992. From the filter plant, the water was stored in a 210,000 gallon finished water tank. Water flowed from this tank by gravity into the main pressure zone. Four pump stations lifted the water into additional storage tanks

BBWC has two vertical wells. Well No. 2 is inactive and well No. 4 only supplies water during the summer months. Well No. 4 can produce up to 450 gallons per minute and meets State standards without any treatment.

3.3.1 JAMISON SPRINGS INTAKES

The diversions on Jamison Springs North and South have been repaired following the CZU fire. The diversion consists of a small concrete dam with a four inch steel pipe passing through it. The diversions provide some reduction of large debris and suspended solids from entering the raw water intake pipes. Each pipe has a manually cleaned screen that captures any large solids.

Repaired South Creek raw water intake

North Creek intake prior to repairs completed in summer 2021.

3.3.2 CORVIN CREEK INTAKE

The Corvin Creek intake was completely destroyed by the CZU fire. BBWC plans to rebuild and use the Corvin Creek intake in the future.

Corvin Creek intake not yet repaired.

3.3.3 JAMISON SPRINGS SWTP

The Jamison Springs SWTP historically received water from Jamison Springs North and South and Corvin Creek. Raw water intakes captured water from both Jamison Springs North and South and conveyed it to a preliminary sedimentation tank. After sedimentation, the water was filtered, and chlorinated prior to storage in the 210,000 gallon storage tank. In 2020, the Jamison Springs SWTP was completely destroyed by the CZU wildfire.

The remains of the Jamison SWTP after the 2020 CZU wildfire.

As a result, a temporary SWTP has been designed and is currently in the process of being installed. Raw water from the South and North Creek diversions will flow into an enclosed 2,500 gallon sedimentation tank. From the sedimentation tank, water will then flow to a coagulation/flocculation tanks, before flowing through a package ultra-filtration treatment system. After ultra-filtration, the filtered water will be disinfected with sodium hypochlorite.

3.3.4 TREATED WATER STORAGE

Treated finished water from the SWTP is stored in a 210,000 gallon tank and delivered to the distribution system.

3.3.5 TREATED WATER DISTRIBUTION SYSTEM

Prior to the 2020 CZU wildfire, BBWC provided water to approximately 580 service connection. The distribution system consisted of almost 20 miles of water main ranging in size from 2 inches to 12 inches, with about 750,000 gallons of water storage in multiple tanks. After the CZU wildfire, BBWC provides water to 400 customers and six water storage tanks.

3.4 WATER SYSTEM EMERGENCY PLANS

Emergency plans are in place to deal with notification of water quality, chlorine disinfection and power failure.

The present monitoring program consists of the following:

- Bi-monthly bacteriological sampling of the finished water
- Monthly general physical of the finished water
- Annual Title 22 of inorganic and general physical and mineral
- As per State regulations of organics

Prior to the 2020 CZU wildfire, turbidity and chlorine residual was continuously monitored and recorded. BBWC tested monthly for coliform and fecal coliform. Cryptosporidium has yet to be put on the testing requirements. The chlorine residual was monitored 24 hours a day, which allowed for early detection of any drops in chlorine residual. In case of a chlorine residual drop, sodium hypochlorite was added directly to the filters to stabilize the residual above 0.2 ppm. While repairing the problem (broken feed pump, 3 way valve, etc.), chlorine was continually added to the filter, which kept the chlorine residual around 1 ppm until the chlorine feed was working properly [4]. Once the temporary treatment plant comes online, monitoring will resume.

Corvin Creek, Jamison Springs North and South are not mapped by FEMA [5]. An undifferentiated quaternary fault that is moderately constrained runs by the watershed [6].

4. POTENTIAL CONTAMINANT SOURCES IN THE WATERSHED

No septic tanks or agricultural activities of any kind are present in the watershed.

The key contaminant of concerns in the watershed are wildfires, logging and wild animals. The Santa Cruz County Fire Hazard Severity zones map is provided in Appendix A. The approximate location of the BBWC watersheds are circled in red.

No major growth in the service area is projected, but there is a potential for rebuilding of homes that were destroyed by the CZU fire. Prior to the CZU fire, approximately 10% of the existing parcels in the service area were undeveloped.

4.1 Survey Methods

Thomas J. Moore, BBWC's owner, conducted the initial survey for the watershed sanitary survey as well as the 2006 update. The initial survey and update were performed by pedestrian survey methods, and all visual observations were performed while walking the watershed. All supplemental information outside of visual observation was either collected via desktop survey efforts performed directly by Thomas J. Moore or provided by Big Creek Lumber Timber.

The 2021 WSS update was performed by Lumos and Associates, Inc. (Lumos). Lumos staff employed a partial watershed pedestrian survey at both surface water intakes, in addition to a windshield survey of portions of the surrounding watershed viewable from SR236 and Jamison Creek Road. Additional survey methods included desktop survey of available records.

4.2 Potential Contaminant Sources

The main potential contaminant sources are wild animals and wildfires. The wild animal population is predominantly deer and pigs with a few coyotes and various rodents. There are no beavers, muskrats or other water intensive rodents. In 2020, the CZU fire severely burned nearly the entire watershed. Only one other fire has occurred on the property and was contained to about half of an acre by CDF.

4.2.1 Wastewater

Two wastewater discharge leach fields lie within the watershed at an elevation of 1,050 feet. The nearest stream diversion is at 1,200 feet in elevation and the nearest well is 1,000 feet away from the leach fields and at 1,200 feet.

4.2.2 Wild Animals

Wild pigs inhabit the watershed and pose a potential risk for contamination.

4.2.3 Logging

Logging occurs within the watershed. Logging can contaminate the watershed via logging equipment fluids, increase in water temperature due to removal of trees which provide shade, and increase the soil moisture as less water is taken up by plants [7]. All logging plans evaluate the property and identify all hazards.

4.2.4 Recreation Use

BBWC owns the entirety of the watersheds, and public access is prohibited. All main entrances are gated and locked. Some illegal motorcycle activity has occurred within the watershed but no damage to the watershed from the illegal motorcycle activity has occurred.

4.2.5 Unauthorized Activity

Access to the watershed is controlled by locked gates and is monitored by BBWC, therefore unauthorized activity poses minimal risk to the watershed.

4.2.6 Traffic Accidents/Spills

Big Basin Highway and Jamison Creek Road run parallel to the Big Basin Watershed. No spills or traffic accidents that could lead to contamination in the watershed have occurred.

4.2.7 Geologic Hazards

The Big Basin Watershed is at a risk of mudslides and landslides due to the CZU wildfire. Wildfires can potentially cause destabilization of pre-existing landslides over long periods of time [8].

4.2.8 FIRES

Boulder Creek, California, is listed on the community at risk list, developed by CAL FIRE. The community at risk lists identifies communities with a high risk of damage from wildfires [9]. On the Fire Hazard Severity Zones, the watershed area is shown as a high risk for fire hazard [10].

4.2.9 CONTAMINANT SOURCES NOT CONSIDERED

The following potential contaminant sources identified in the AWWA WSS Guidance manual were not considered in this update as they were considered to have little to no applicability for BBWC's watershed:

- Reclaimed Water – Reclaimed water is not presently used within BBWC's service territory and no reclaimed water infrastructure exists in the source watersheds.
- Urban Runoff and Industrial Area Runoff – There are presently no urbanized or industrial developed portions of BBWC's source watersheds. Urban runoff may present a water quality risk to Boulder Creek, however, this is beyond the scope of this WSS update as Boulder Creek is not a water source for BBWC.
- Agricultural Crop Land Use – No agricultural crop production presently occurs in BBWC's source watersheds.
- Grazing Animals – No ranching or other utilization of grazing animals presently exists within BBWC's source watersheds. In the future, should grazing animals be relied on for conjunctive use in fuels reduction to reduce wildfire risk and severity, this will need to be considered as a potential source of contamination.
- Concentrated Animal Facilities – No concentrated animal facilities presently exist within BBWC's source watersheds.
- Pesticide/Herbicide Use – The use of pesticides and herbicides are not presently employed within BBWC's source watersheds. If herbicides are used in conjunction with future fuels reduction or invasive species control within the watersheds, this potential source will need to be evaluated.
- Mine Runoff – No current or abandoned mines are known to occur within BBWC's source watersheds.
- Solid and Hazardous Waste Disposal Facilities – No hazardous or solid waste facilities are located in or hydrographically connected to BBWC's source watersheds.
- Groundwater which Influences Surface Water Quality – BBWC's surface water sources originate from creeks within drainage basins. The aquifer/surface water interface at the headwaters is not well understood but assumed to be primarily driven from precipitation within the watershed. High saline and nitrogen contaminated groundwater influencing these surface water sources is expected to be unlikely.
- Seawater Intrusion – Due to BBWC's source watersheds being located on the inland side of the Ben Lomond Mountain divide, seawater intrusion is highly unlikely, especially for BBWC's surface water sources which are the subject of this WSS update.

4.3 SIGNIFICANCE OF POTENTIAL CONTAMINANT SOURCES

The identified potential contaminant sources are ranked in Table 1 below. The rankings are based on likelihood, physical barrier effectiveness and severity. Likelihood represents how often this potential contaminant source may occur, with 5 representing often, and 1 representing not often. The physical barrier effectiveness factors in whether any protective measures exist to prevent the potential contamination, and if so, the effectiveness of these physical barriers. A score of 5 indicates that no physical barrier exists where as a score of 1 represents that a physical barrier exists and the barrier is effective at preventing potential contamination. Severity represents the amount of damage the potential contaminant could inflict on the watershed if it were to occur. A score of 5 indicates that if the potential contaminant were to occur, a high amount of damage/contamination in the watershed would occur where as a score of 1 indicates

that if the potential contaminant were to occur, little damage would be inflicted on the watershed. The three categories are summed together, with the highest score symbolizing the contaminant source with the highest potential to damage the watershed. Please note that all rankings are subjective and were made qualitatively. The highest ranking potential contaminants to the watershed are wild animals and wildfires.

Table 1: Ranking Matrix for Identified Contaminant Sources

Type of Risk	Likelihood High=5 Medium=3 Low=1	Physical Barrier Effectiveness Low=5 Medium=3 High=1	Severity High=5 Medium=3 Low=1	Total Score
Wildfires	5	5	5	15
Wild Animals	5	5	3	13
Geologic Hazards	2	5	3	10
Logging	5	2	3	10
Traffic Accidents/Spills	1	3	3	7
Wastewater contamination	1	2	4	7
Recreation use/unauthorized activity	1	2	2	5

5. WATERSHED CONTROL AND MANAGEMENT PRACTICES

5.1 ORGANIZATIONAL STRUCTURE

At the Jamison SWTP, there are two certified operators, the manager Thomas J. Moore (Jim) and Damian T Moore.

5.2 WATERSHED MANAGEMENT & OPERATIONS

BBWC owns the entirety of the watershed and access is prohibited except for logging activities. PG&E has an easement to maintain their power lines, but the power lines do not affect the drainage in the watershed. .

BBWC monitors four streams for turbidity, two stream for MPN of coliform and raw water turbidity at the plant.

5.3 INSPECTION AND SURVEILLANCE

BBWC patrols the watershed both by walking and use quads. Some of the lower areas are patrolled at least weekly and all areas are patrolled at least monthly.

5.4 OTHER AGENCIES WITH WATERSHED CONTROL AUTHORITY

BBWC owns the entirety of the watershed. No access is permitted except for logging. PG&E has an easement for the power lines in the watershed. Note that the power lines do not impact the drainages in the watershed.

5.5 WASTEWATER DISCHARGE

The Central Valley (Region 5) Regional Board requires a permit for any discharges that affect California's surface, coastal or ground waters. A National Pollutant Discharge Elimination System (NPDES) permit is necessary for discharges to surface waters. For other types of discharges, such as discharge to groundwater or waste discharges to land, require a Waste Discharge Requirements (WDR) [11]. There are two wastewater discharges to leach fields within the watershed. Both leach fields are located at an elevation of 1,050 feet. The nearest stream diversion and well are at an elevation of 1,200 feet. Given that the stream diversion and well are at higher elevation than the leach fields, contamination due to the leach field is not a concern.

5.6 STORM WATER

During runoff events, high turbidity is often observed. The loss of vegetation due to wildfires can cause an increase in turbidity levels during a runoff event. Additionally, the watershed is also at risk of hazardous debris flows which can occur in response to high intensity rainfall events [8].

5.7 LEASE AGREEMENTS

Big Basin owns the entirety of the watershed and does not lease out portions of the watershed.

5.8 RECREATIONAL ACTIVITIES AND POLICIES

BBWC owns the entirety of the watershed and public access to the watershed is prohibited.

5.9 OPEN SPACE POLICIES

Currently there are no open space policies in the watershed.

5.10 EROSION CONTROL/SOIL MANAGEMENT POLICIES

Logging plans consider erosion control and soil management policies. Logging plans are prepared to ensure that the logging activities are done in a manner that will preserve and protect fish, wildlife, forests and streams [12].

5.11 FIRE MANAGEMENT

To improvement fire management, hydraulic modeling for fire flow will be done as well as an improved timber management plan. Additionally, a fuels reduction program is needed, especially around critical water infrastructure such as tanks, pump stations, and treatment plants.

5.12 WATER AGENCY CONTROL MEASURES

No significant contaminants exist within the watershed and no measures are being taken to control both water quality and esthetic values. To ensure that the water quality does not become contaminated in the future, private ownership of the watershed will be maintained, and recreation and other public use of the watershed will continue to be prohibited.

5.13 RECOMMENDED CONTROL MEASURES

Wildfires pose a threat to drinking water quality as rainstorms can flush ash, sediment, nutrients and other contaminants into rivers, streams and other surface waters. To help reduce the threat of wildfires in the watershed, hydraulic modeling for fire flow, an improved timber management plan and fuel reduction, especially around critical infrastructure, is recommended. To ensure contamination does not come from recreational use, it is recommended that BBWC continues to prohibit public access to the watershed.

6. WATER QUALITY

6.1 DRINKING WATER REGULATIONS

BBWC follows the State monitoring requirements. The monitoring program prior to the 2020 CZU wildfire was as follows:

- Bi-monthly bacteriological samples of the finished water
- Monthly general physical of the finished water
- Annual Title 22 of inorganic constituents and general physical and minerals
- Monitoring as per state regulation of organics

Most of the time, the contaminant concentrations are not detected or are well below the maximum contaminant level (MCL). The minimum requirements for surface water treatment are as follows:

- 3 log removal and/or inactivation of *Giardia*
- 4 log removal and/or inactivation of viruses
- No requirement on *Cryptosporidium*

Due to the 2020 CZU wildfire, no sampling occurs. It is recommended that BBWC samples the influent raw water.

6.2 EXISTING WATER QUALITY

No USGS gages are present within the watershed. No DWR monitoring is done within the watershed

6.3 ABILITY TO MEET SWTR REQUIREMENTS

Turbidity has been a problem at times. The raw water level averages below 0.7 NTU. To meet the desired levels, 80% reduction is necessary which can be difficult to achieve. In 2005, the filter media in both filters was replaced which helped maintain the turbidity levels below 0.1 NTU most of the time.

6.4 RECOMMENDED WATER QUALITY MONITORING PROGRAM

The CZU complex wildfire in 2020 destroyed many of Big Basin Water Company's operational records and documentation for the system. A raw water sample from the North and South Jamison Creek was collected and analyzed in April/May of 2021. All historic sampling records were destroyed in the 2020 CZU fire.

Table 2: Summarized Raw Water Quality of North and South Creeks of Jamison Springs with Primary and Secondary Limits

Contaminant	South Creek	North Creek	Primary MCL	Secondary MCL
Turbidity	4.4 NTU	0.20 NTU	<0.3 NTU 95% of time <1.0 NTU 100% of time	
Calcium	16 mg/L	26 mg/L		
Copper	ND µg/L	ND µg/L	1.3 mg/L	
Iron	164 µg/L	ND µg/L		0.3 mg/L
Magnesium	4.7 mg/L	7.0 mg/L	300 mg/L	
Manganese	ND µg/L	ND µg/L		0.05 mg/L
Potassium	1.2 mg/L	1.8 mg/L		
Sodium	10 mg/L	10 mg/L		
Zinc	ND µg/L	ND µg/L		5 mg/L
Aluminum	125 µg/L	ND µg/L		0.05 mg/L
Antimony	ND µg/L	ND µg/L	0.006 µg/L	
Arsenic	ND µg/L	ND µg/L	0.010 mg/L	
Barium	18.3 µg/L	27.1 µg/L	2 mg/L	
Beryllium	ND µg/L	ND µg/L	0.004 mg/L	
Cadmium	ND µg/L	ND µg/L	0.005 mg/L	
Chromium	ND µg/L	ND µg/L	0.1 mg/L	
Lead	ND µg/L	ND µg/L	0.015 mg/L	
Mercury	ND µg/L	ND µg/L	0.002 mg/L	
Nickel	ND µg/L	ND µg/L	0.001 mg/L	
Selenium	ND µg/L	ND µg/L	0.05 mg/L	
Silver	ND µg/L	ND µg/L		0.10 mg/L
Thallium	ND µg/L	ND µg/L	0.002 mg/L	
Bromide	ND mg/L	ND mg/L		
Chloride	6.2 mg/L	8.2 mg/L		250 mg/L
Fluoride	ND mg/L	0.1 mg/L	4.0 mg/L	2.0 mg/L
Nitrate as N	ND mg/L	ND mg/L	10 mg/L	
Nitrate + Nitrite as N	ND mg/L	ND mg/L	10 mg/L	
Nitrite as N	ND mg/L	ND mg/L	1 mg/L	
Orthophosphate as P	ND mg/L	ND mg/L		
Sulfate	12 mg/L	12 mg/L		250 mg/L
Color	15 Color Units	7 Color Units		
Odor	<1 TON	<1 TON		3 TON
Alkalinity Total (as CaCO3)	57 mg/L	92 mg/L		
Bicarbonate (as HCO3-)	69 mg/L	113 mg/L		
Carbonate (CaCO3)	ND mg/L	ND mg/L		
Hydroxide	ND mg/L	ND mg/L		
Hardness (as CaCO3)	60 mg/L	93 mg/L		
Specific Conductance (EC)	150	207	900	
pH	7.8	8.1		6.5-8.5
Dissolved Organic Carbon (DOC)	1.1 mg/L	1.1 mg/L		
Total Organic Carbon (TOC)	0.9 mg/L	1.0 mg/L		
MBAS (Surfactants)	ND mg/L	ND mg/L		

Based on the raw water quality data, both the South and North Creeks of Jamison Springs are high quality raw water sources.

7. CONCLUSIONS & RECOMMENDATIONS

Big Basin Watershed Company owns the Big Basin watershed in its entirety. Since no recreational activities are permitted in the watershed and access is controlled by locked gates, the contaminants within the watershed are minimal.

Logging, performed under an NTMP, does occur within the watershed but logging actives are overseen by the Big Basin Water Company, the State and the County level. The two highest potential source of contaminants are wildfires and wild animals. Deer and wild pigs are the predominant wild animals residing within the watershed and no beavers or other water rodents live within the watershed. The main contaminants of concern are Giardia and Cryptosporidium. Removal of Giardia and Cryptosporidium is achieved by a minimum of 3-log removal. The watershed is in a high wildfire risk area according to Cal Fire, and in 2020 was severely burned by the CZU Complex wildfire. The CZU Complex wildfire also destroyed the Jamison Surface Water Treatment Plant. As a result of the CZU wildfire, a revised non-industrial timber management plan is recommended along with hydraulic modeling for fire flow and fuel management is recommended. Due to the destruction of the Jamison Surface Water Treatment plant, sampling of the influent raw water was halted. Sampling of the influent raw water is recommended.

References

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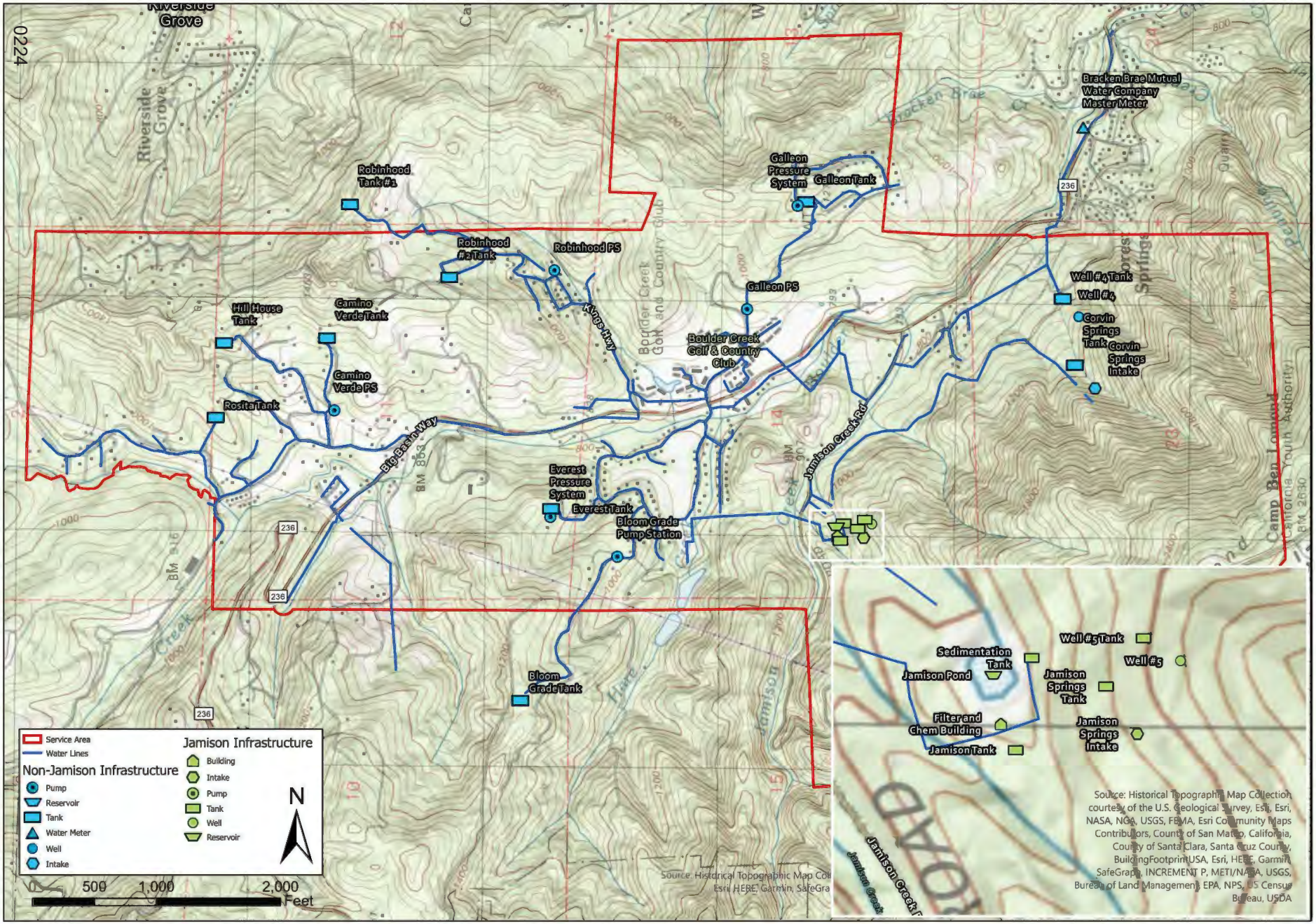
Appendix A: Maps and Figures



LUMOS & ASSOCIATES
308 N. CURRY ST., STE 200
CARSON CITY, NV 89703
TEL: 775.883.7077
WWW.LUMOSINC.COM

Big Basin Water Company

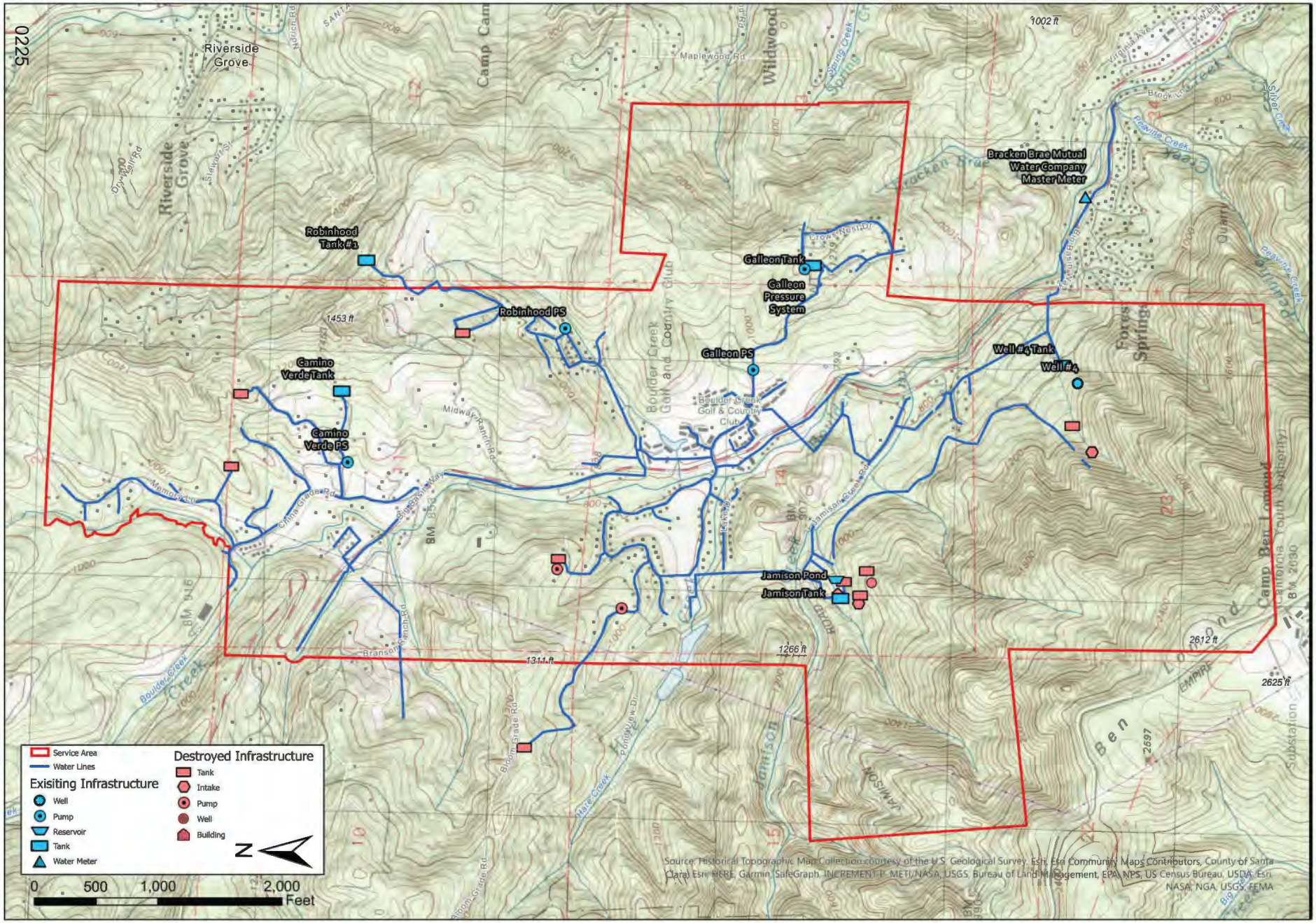
Jamison Creek Temporary Water Treatment Facility Pre-Fire Infrastructure

Boulder Creek — Santa Cruz County — California

REV	DATE	DESCRIPTION	BY

BAR IS 1 INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWN BY:	DRB
DESIGNED BY:	MQ
CHECKED BY:	JEL
JOB NO.:	10391.000
SHEETS:	



LUMOS & ASSOCIATES
308 N. CURRY ST., STE 200
CARSON CITY, NV 89703
TEL: 775.883.7077
WWW.LUMOSINC.COM

Big Basin Water Company

Jamison Creek Temporary Water Treatment Facility Remaining Infrastructure

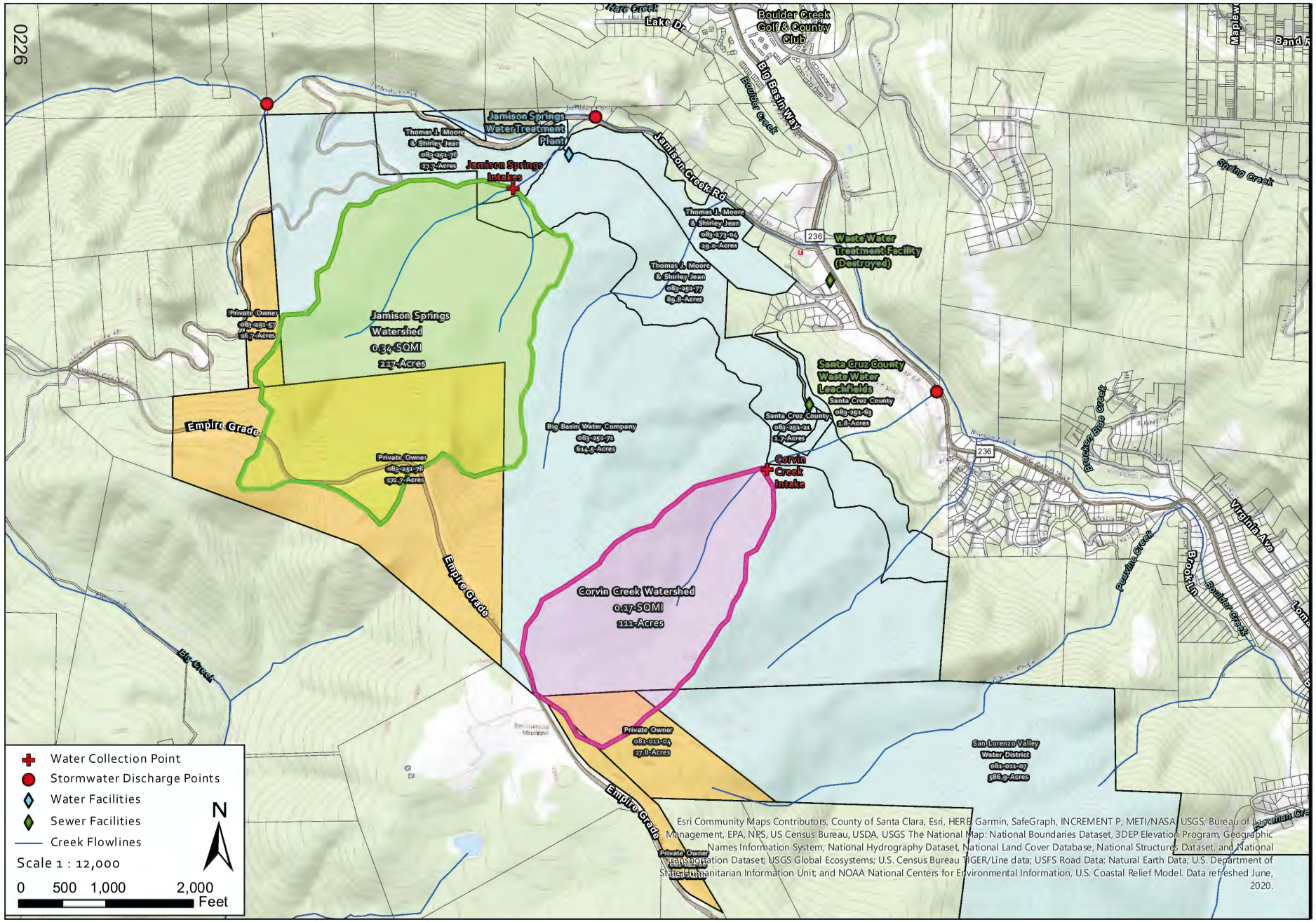
Boulder Creek, Santa Cruz County, California

REV	DATE	DESCRIPTION	BY

BAR IS 1 INCH ON ORIGINAL DRAWING

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWN BY:	DRB
DESIGNED BY:	MQ
CHECKED BY:	JEL
JOB NO.:	10391.000
SHEETS:	



Esri Community Maps Contributors, County of Santa Clara, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June, 2020.

LUMOS & ASSOCIATES
308 N. CURRY ST., STE 200
CARSON CITY, NV 89703
TEL: 775.883.7077
WWW.LUMOSINC.COM

Big Basin Water Company

Jamison Creek Temporary Water Treatment Facility Watershed Boundaries

California
Santa Cruz County
Boulder Creek

REV DATE	DESCRIPTION	BY

BAR IS 1 INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

Exhibit

DRAWN BY: DRB
DESIGNED BY: NTC
CHECKED BY: JL
JOB NO.: 10391.000
SHEETS: Exhibit

0227

SANTA CRUZ COUNTY

FIRE HAZARD SEVERITY ZONES IN SRA

Adopted by CAL FIRE on November 7, 2007

Public Resources Code 4201-4204 direct the California Department of Forestry and Fire Protection (CAL FIRE) to map fire hazard within State Responsibility Areas (SRA), based on relevant factors such as fuels, terrain, and weather. These statutes were passed after significant wildland-urban interface fires, consequently these hazards are described according to their potential for causing ignitions to buildings. These zones referred to as Fire Hazard Severity Zones(FHSZ), provide the basis for application of various mitigation strategies to reduce risks to buildings associated with wildland fires. The zones also relate to the requirements for building codes designed to reduce the ignition potential to buildings in the wildland-urban interface zones.

These maps have been created by CAL FIRE's Fire and Resource Assessment Program (FRAP) using data and models describing development patterns, estimated fire behavior characteristics based on potential fuels over a 30-50 year time horizon, and expected burn probabilities to quantify the likelihood and nature of vegetation fire exposure to new construction. Details on the project and specific modeling methodology can be found at http://frap.cdf.ca.gov/projects/hazard/methods.htm.

The version of the map shown here represents the official "Maps of Fire Hazard Severity Zones in the State Responsibility Area of California" as required by Public Resources Code 4201-4204 and entitled in the California Code of Regulation, Title 14, Section 1280 Fire Hazard Severity Zones, and as adopted by CAL FIRE on November 7, 2007.

An interactive system for viewing map data is hosted by the UC Center for Fire at http://firecenter.berkeley.edu/fhsz/

Questions can be directed to David Sapsis, at 916.445.5399, dave.sapsis@fire.ca.gov.

Projection Albers, NAD 1927
Scale 1: 100,000
at 29" x 24.5"
November 06, 2007

Obtain FRAP maps, data, metadata and publications on the Internet at http://frap.cdf.ca.gov
For more information, contact CAL FIRE-FRAP, PO Box 944246, Sacramento, CA 94244-2460, (916) 327-3939.

Arnold Schwarzenegger, Governor,
State of California
Mike Chrisman, Secretary for Resources,
The Resources Agency
Ruben Grijalva, Director,
Department of Forestry and Fire Protection

MAP ID: FHSZS_MAP

DATA SOURCES
CAL FIRE Fire Hazard Severity Zones (FHSZS06_3)
CAL FIRE State Responsibility Areas (SRA05_5)
CAL FIRE Incorporated Cities (Incorp07_3)
PLSS (1:100,000 USGS, Land Grants with CAL FIRE grid)

EXHIBIT J

From:	Shirley Moore
To:	Weininger, Jonathan@Waterboards
Cc:	Carr, Matthew K.@Waterboards; Cajina, Stefan@Waterboards; Mooney, Laura@Waterboards; Kler, Shaminder@Waterboards; Chavez, Moises; Wilson.Tsai@cpuc.ca.gov
Subject:	Re: fines (Big Basin Water Company)
Date:	Wednesday, December 14, 2022 4:10:53 PM
Attachments:	apps for grant and rate increase.pdf

EXTERNAL:

Hi
Here are the pages that Jonaathan wanted. The Grant is from Lynn Nolan and rate increase was done by Edmund Viray
Shirley Moore
Big Basin Water

On Tue, Dec 13, 2022 at 3:57 PM Weininger, Jonathan@Waterboards <Jonathan.Weininger@waterboards.ca.gov> wrote:

> Shirley, can you please email us copies of the following applications mentioned below?
>
> - the CPUC rate increase application
> - the grant application
>
> Thanks,
>
> Jonathan Weininger
>
> Division of Drinking Water | (831) 655-6932
>
> ---
>
> **From:** Shirley Moore <sjm16595@gmail.com>
> **Sent:** Monday, December 12, 2022 2:05 PM
> **To:** Weininger, Jonathan@Waterboards <Jonathan.Weininger@waterboards.ca.gov>
> **Subject:** fines

EXTERNAL:

Jonathon

Big Basin Water is asking CA State Health to waive any and all fines. These fines will directly affect dozens of families from starting to rebuild, completing rebuilds and moving into new homes. As we serve water to our community we can't find justification in sending CA State Health money that we don't have while many families are still suffering from the affects of the CZU fire. We are confident we have either completed or have submitted to you plans to complete every issue we were cited for. We ask for State Health to consider the families that lost everything in the CZU fire before choosing to penalize BBW which only hurts these families and existing customers. Our grant is almost ready to submit and our rate increase is ready to submit. If we are to pay fines instead of completing CZU repairs, families will suffer greatly and some will lose their properties.CA is awarding millions in grant money in many areas of the State. So with so much available funds we see no need for State Health to collect money from this community as it continues to suffer through fire recovery. On behalf of all residents and customers in BBW district we greatly appreciate your consideration in waiving the fines and fees.

Shirley Moore

Big Basin Water

Attachment 1, Part I – Application Cover Sheet

Application for Small Community Drought Relief Program pursuant to Budget Act of 2021

The Big Basin Water Company
(Exact legal name of local entity applying for the grant)

Of P.O. Box 197
(Mailing address of local entity)

Boulder Creek, CA 95006

Of the County of Santa Cruz, State of California, does hereby apply to the California Department of Water Resources for a grant in the amount of $ $400,352 .

For the following project under the Small Community Drought Relief Program:

Drought Contingency Well Construction
(Specify project title)

By Thomas J Moore Date November 29, 2022
(Signature of authorized representative)

Thomas (Jim) Moore General Manager/Owner
(Print or type name of authorized representative) *(Title)*

Telephone (831) 332-6236 E-mail sjm16595@gmail.com

Brief Proposal Description:

Big Basin Water Company lost a water treatment plant during the August 2020 Lightning Fire in Santa Cruz County. The water treatment plant was utilized for treating potable surface water for the customers of the water company. Due to drought issues in the county impacting surface water, rebuilding the water treatment plant is not considered a viable option for replacing the lost water supply caused by the fire, so this proposal is for a new well located within 250 feet of the 225,000 gallon water storage tank that is used as back up water supply in the service area. The new well is expected to provide additional water supply of 80 gallons per minute, which if not utilized by customers in the service area, can be stored in water tank for emergency back up. Total cost of this project is $400,352 and that includes engineering and design, well drilling and piping the new water supply to the storage tank.

RESOLUTION NO. 2022-1

A RESOLUTION OF THE BOARD OF THE BIG BASIN WATER COMPANY

AUTHORIZING THE GRANT APPLICATION, ACCEPTANCE, AND EXECUTION

FOR THE DROUGHT CONTINGENCY WELL CONSTRUCTION PROJECT

WHEREAS, The Big Basin Water Company proposes to implement the Drought Contingency Well Construction Project;

WHEREAS, the Drought Contingency Well Construction Project is being implemented in response to a drought scenario, as defined by Water Code section 13198(a) and is intended to: (1) address immediate impacts on human health and safety; (2) address immediate impacts on fish and wildlife resources; or, (3) provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies;

WHEREAS, Big Basin Water Company has the legal authority and is authorized to enter into a funding agreement with the State of California; and

WHEREAS, Big Basin Water Company intends to apply for grant funding from the California Department of Water Resources for the Drought Contingency Well Construction Project;

THEREFORE, BE IT RESOLVED by the Board of the Big Basin Water Company as follows:

1. That pursuant and subject to all of the terms and provisions of Budget Act of 2021 (Stats. 2021, ch. 240, § 80), the Big Basin Water Company General Manager/Owner, or designee is hereby authorized and directed to prepare and file an application for funding with the Department of Water Resources, and take such other actions as necessary or appropriate to obtain grant funding.

2. The Big Basin Water Company General Manager/Owner, or designee is hereby authorized and directed to execute the funding agreement with the Department of Water Resources and any amendments thereto.

3. The Big Basin Water Company General Manager/Owner, or designee is hereby authorized and directed to submit any required documents, invoices, and reports required to obtain grant funding.

CERTIFICATION I hereby certify that the foregoing Resolution was duly and regularly adopted by the Board of the Big Basin Water Company at the meeting held on November 29, 2022, motion by Thomas (Jim) Moore and seconded by Shirley Moore, motion passed by the following vote:

CALIFORNIA PUBLIC UTILITIES COMMISSION Water Division
Advice Letter Cover Sheet

Utility Name: Big Basin Water Company
District: NA
CPUC Utility #: U-157-W
Advice Letter #: 82-W
Tier ☐1 ☐2 ☒3 ☐Compliance

Date Mailed to Service List: 12/20/22
Protest Deadline (20th Day): 1/10/23
Review Deadline (30th Day): 1/20/23
Requested Effective Date: 2/1/23

Authorization GO 96-B

Description: General rate case

Rate Impact: $271,613
55.59%

The protest or response deadline for this advice letter is 20 days from the date that this advice letter was mailed to the service list. Please see the "Response or Protest" section in the advice letter for more information.

Utility Contact: Jim Moore
Phone: (831) ~~338-2933~~ 818-4477
Email: ~~bbwater197@yahoo.com~~ SJM16595@Gmail.com

Utility Contact:
Phone:
Email:

DWA Contact: Tariff Unit
Phone: (415) 703-1133
Email: Water.Division@cpuc.ca.gov

DWA USE ONLY

DATE	STAFF	COMMENTS

[ ] APPROVED [ ] WITHDRAWN [ ] REJECTED

Signature:_____ Comments: _____

Date: _____ _____

EXHIBIT K

REQUEST FOR TECHNICAL ASSISTANCE

Instructions: *If an item is not relevant or unknown, enter "N/A" or "unknown."*
Please e-mail the completed form to: DFA-TARequest@waterboards.ca.gov

Date of Submittal: 5/9/2023 **Name of Requestor:** Lynn Nolan

A. Community, System, or School Name: Big Basin Water Company

Public Water System ID No. (if applicable): 4410001 County: Santa Cruz

Number of Service Connections: 550 Service Area Population: 1650

Type of Organization: ☐ Municipal entity ☑ Private entity (Select one: ☐ nonprofit; ☑ for profit)

District/Local education agency ☐ Other:

Estimated Median Household Income (MHI): $ 58362 (Source: US Census)

Estimated percentage of secondary homes: 29 % Service Area Map included (required) ☑

Letters of Intent included (required for voluntary consolidation/regionalization projects) ☐

B. Type of TA Need: ☑ Drinking Water ☐ Wastewater ☐ Storm Water ☐ Groundwater

C. Problem: Briefly summarize the problem or the TA needs.

Big Basin Water Company is applying for Drinking Water State Revolving Loan Funding for the implementation of a drinking water well and piping to an adjacent storage tank to meet both drought contingency requirements and replacement for a surface water source lost in the 2020 Lightening Fire. A pre-application was submitted for this project in January 2023 and has been approved for the submission of a full application. However, many of the documents necessary for the application are beyond the resources of the water agency and as it serves a DAC, technical assistance to help with the preparation of these documents is requested.

D. Request: Briefly describe the assistance being requested.

Technical assistance is needed to help prepare some of the required information for the SWRCB planning application, most specifically engineering plans and specifications and doing service area and project area mapping.

Is the regulatory agency (DDW, LPA, Regional Water Board, etc.) supportive of this project?

☐ Yes, name of contact person/agency: ☐ No

Is this request associated with a compliance order?

☑ Yes, Compliance Order No.: (attach a copy if available) ☐ No

E. Contact Information: Please provide a contact for correspondence regarding this request.

Lynn Nolan — Name
Grants Coordinator/CWA — Title/Organization
2675 Bertha Ave — Mailing Address
South Lake Tahoe 96150 — City/State Zip Code
530-318-1626 — Phone Number
sleeperlkn@yahoo.com — E-mail Address

Instructions for Completing "Request for Technical Assistance (TA)"

SECTION A

Community, System, or School Name: Enter the full name of the organization or community needing TA.

Public Water System ID: If the organization is a drinking water system, provide the Public Water System ID. Otherwise, enter "N/A".

County: Enter the county of the organization needing TA.

Number of Service Connections: Enter the number of active service connections in the service area needing TA.

Service Area Population: Provide the population of the service area needing TA.

Type of Organization: Check the box that best describes the type of organization in need of the TA.

Estimated Median Household Income (MHI): Enter the estimated MHI for households within the service area, if known. The only MHI sources accepted by the State Water Board are (1) 5-years American Community Survey (ACS) data and (2) income surveys previously validated by the State Water Board. If the organization needing TA is a school, enter "N/A."

Estimated percentage of secondary homes: Estimate the percentage of homes within the service area which are occupied for less than six (6) months of a year.

Service Area Map: Provide a copy of service area map for system. Service area map is required.

Letters of Intent: Provide a copy of a signed letter from each participating system stating its intent to consolidate. Letters of intent are required for voluntary consolidation/regionalization projects.

SECTION B

Type of TA Need: Check the box indicating the type of TA need being requested. Requests for more than one type of TA need should be submitted on separated forms.

SECTION C

Problem: Describe the problems/needs of the system, such as water quality issue, water supply shortage, capital improvement needs, etc.

SECTION D

Request: Describe the TA being requested. Examples of TA provided include:

- Funding application
- Income survey
- Leak detection
- Community outreach
- Rate study
- Legal assistance
- Engineering services
- Environmental services
- Hydrogeological analysis

Is the regulatory agency supportive of this project? Indicate if the request has been discussed with someone from a regulatory agency, such as the Regional Water Board, the Division of Drinking Water, or the Local Primacy Agency. If yes, provide the names of the primary contact person and the agency.

Is this request associated with a compliance order? Indicate if TA is being requested to address a compliance order. If yes, enter the compliance order number. Attach a copy of the compliance order when submitting the request.

SECTION E

Contact Information: Provide a contact for follow up correspondence from the State Water Board.

SUBMISSION:

Please email completed forms to: DFA-TARequest@waterboards.ca.gov. On the e-mail subject line, include the name of the organization that will be the TA recipient. You are encouraged to submit any supporting documentation demonstrating the TA needs. Examples include copies of compliance order, sanitary survey, water system's maintenance logs, etc. All supporting documentation may be submitted as attachments when e-mailing the request form.

EXHIBIT L

State Water Resources Control Board
Division of Drinking Water

August 19, 2021

System No. 4410001

Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
bbwater197@yahoo.com

CITATION NO. 02_05_21C_021
FAILURE TO PROVIDE A RELIABLE SUPPLY OF POTABLE WATER

Enclosed is Citation No. 02_05_21C_021 (hereinafter "Citation"), issued to the Big Basin Water Company (hereinafter "Big Basin WC") public water system. Please note that there are legally enforceable deadlines associated with this Citation.

Big Basin WC will be billed at the State Water Resources Control Board's (hereinafter "State Water Board") hourly rate for the time spent on issuing this Citation. California Health and Safety Code (hereinafter "CHSC") Section 116577 provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including preparing, issuing and monitoring compliance with a citation. At this time, the State Water Board has spent approximately three hours on enforcement activities associated with this violation.

Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on Big Basin WC for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the State Water Board under Article 8 (commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter

4), may file a petition with the State Water Board for reconsideration of the citation, order or decision.

Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the State Water Board. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.

Information regarding filing petitions may be found at:

http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml

If you have any questions regarding this matter, please contact the Division of Drinking Water at dwpdist05@waterboards.ca.gov or (831) 655-6939.

Sincerely,

Jonathan Weininger

Digitally signed by Jonathan Weininger
Date: 2021.08.18 10:12:09 -07'00'

Jonathan Weininger, PE
District Engineer, Monterey District
Division of Drinking Water

Enclosures

Certified Mail No. 7018 3090 0001 0464 6731

cc: Santa Cruz County Environmental Health Services
Marilyn Underwood, Marilyn.Underwood@santacruzcounty.us
Nathan Salazar, Nathan.Salazar@santacruzcounty.us
Sierra Ryan, Sierra.Ryan@santacruzcounty.us

California Public Utilities Commission (CPUC) Water Division
Moises Chavez, moises.chavez@cpuc.ca.gov
Wilson Tsai, wilson.tsai@cpuc.ca.gov

Citation No. 02_05_21C_021

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Name of Public Water System: Big Basin Water Company

Water System No: 4410001

Attention: Jim Moore, Manager

PO Box 197

Boulder Creek, CA 95006

Issued: August 19, 2021

CITATION FOR NONCOMPLIANCE

CALIFORNIA HEALTH AND SAFETY CODE, SECTION 116555 (a)(3), AND CCR, TITLE 22, SECTION 64602

FAILURE TO PROVIDE A RELIABLE SUPPLY OF POTABLE WATER

The California Health and Safety Code (hereinafter "CHSC"), Section 116650 authorizes the State Water Resources Control Board (hereinafter "State Water Board"), to issue a citation to a public water system when the State Water Board determines that the public water system has violated or is violating the California Safe Drinking Water Act (hereinafter "California SDWA"), (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit, or order issued or adopted thereunder.

The State Water Board, acting by and through its Division of Drinking Water (hereinafter "Division"), and the Deputy Director for the Division, hereby issues Citation No. 02_05_21C_021 (hereinafter "Citation"), pursuant to Section 116650 of the CHSC to the Big Basin Water Company (hereinafter "Big Basin WC"), for violation of CHSC, Section 116555 and CCR, Title 22, Section 64602.

STATEMENT OF FACTS

Big Basin WC is classified as a community water system and serves a population of 1,120 through 482 connections (information from the 2020 Electronic Annual Report to the Division of Drinking Water (EAR)). The population and service connections listed in the 2020 EAR reflect reduced numbers following the August 2020 CZU Lightning Complex Fire, which destroyed or damaged a portion of Big Basin WC's customer connections. Big Basin WC operates under Domestic Water Supply Permit No. 02-05-44-94P-001, issued by the State Water Board on February 11, 1994.

CHSC, Section 116555 (a)(3) requires any person who owns a public water system to ensure that the system provides a reliable and adequate supply of pure, wholesome, healthful, and potable water.

CCR, Title 22, Section 64602 states that each distribution system must be operated in a manner to assure that a minimum operating pressure in the water main at the user service line connection throughout the distribution system is not less than 20 pounds per square inch at all times.

On Sunday, June 27, 2021, three Big Basin WC customers notified the State Water Board of a water outage impacting the Galleon Heights pressure zone. Based on conversations with Big Basin WC customers, the water outage lasted up to seven hours, and service was restored by 8 PM. Each customer mentioned they tried to reach Big Basin WC to

report the outage, but they were not provided a response. By email dated June 27, 2021, and by phone on June 28, 2021, the State Water Board instructed Big Basin WC to issue a precautionary boil water notice to the Galleon Heights pressure zone.

On June 28, 2021, Big Basin WC issued a Boil Water Notice to the Galleon Heights customers following the water outage. Big Basin WC later stated the reason for the pressure loss was a faulty 100-amp breaker that caused the Galleon Heights booster station, which serves the Galleon Heights pressure zone, to shut down. Big Basin WC did not report the water outage to the State Water Board until the State Water Board initiated contact with Big Basin WC.

DETERMINATION

The State Water Board has determined that Big Basin WC has failed to comply CHSC, Section 116555 (a)(3) and CCR, Title 22, Section 64602 by not providing a reliable supply of potable water to the Galleon Heights pressure zones.

PENALTY PURSUANT TO HEALTH AND SAFETY CODE SECTION 116650

The State Water Board hereby assesses upon Big Basin WC an administrative penalty in the amount of **$1,000**. Big Basin WC is directed to pay this penalty in accordance with the requirements set forth in Directive 2 of this Citation.

DIRECTIVES

Big Basin WC is hereby directed to take the following actions:

1. By **September 16, 2021**, submit to the State Water Board a corrective action plan that includes a schedule for replacing the pumps and appurtenances at the Galleon Heights booster station and installing reliability features, such as alarms and backup power capabilities, with a final completion date no later than

November 30, 2021. The plan must ensure that the Galleon Heights pressure zone distribution system pressure can be reliably maintained without outages.

2. Submit to the State Water Board by **September 16, 2021,** a check for the administrative penalty of **$1,000** imposed by this Citation and a copy of the form, which is attached as Appendix 1, hereto entitled "Notice of Administrative Penalty." The Citation number must be written on the check. The check must be made payable to the **State Water Resources Control Board** and submitted to:

SWRCB Accounting Office
ATTN: Drinking Water Program Fees
P.O. Box 1888
Sacramento, CA 95812-1888

All submittals required by this Citation, unless otherwise specified in the directives above, must be electronically submitted to the State Water Board at the following address. The subject line for all electronic submittals corresponding to this Citation must include the following information: Water System name and number, citation number and title of the document being submitted.

Jonathan Weininger, District Engineer
Dwpdist05@waterboards.ca.gov

The State Water Board reserves the right to make modifications to this Citation as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Citation and shall be effective upon issuance. Nothing in this Citation relieves Big Basin WC of its obligation to meet the requirements of the California SDWA (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit or order issued or adopted thereunder.

PARTIES BOUND

This Citation shall apply to and be binding upon Big Basin WC, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

SEVERABILITY

The directives of this Citation are severable, and Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Citation.

Stefan Cajina Digitally signed by Stefan Cajina Date: 2021.08.18 09:05:50 -07'00'

Stefan Cajina, P.E., Chief
North Coastal Section
Division of Drinking Water
State Water Resources Control Board

August 19, 2021
Date

Appendices (1):

1. Notice of Administrative Penalty Form

Certified Mail No. 7018 3090 0001 0464 6731

APPENDIX 1 - NOTICE OF ADMINISTRATIVE PENALTY FORM

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Notice of Administrative Penalty

System Name: Big Basin Water Company

System Number: 4410001

Background

On August 18, 2021, the Division of Drinking Water issued Citation 02_05_21C_021 to the Big Basin Water Company. The Citation carried a civil penalty in the amount of **$1,000**.

Method of Payment

A check for the total amount of the civil penalty and a copy of this form must be submitted to the State Water Board by **September 10, 2021**. The Citation number must be written on the check, the check made payable to the **State Water Resources Control Board**, and submitted to:

SWRCB Accounting Office
ATTN: Drinking Water Program Fees
P.O. Box 1888
Sacramento, CA 95812-1888

Attach check below:

EXHIBIT M

State Water Resources Control Board
Division of Drinking Water

October 28, 2021

System No. 4410001

Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
bbwater197@yahoo.com

CITATION NO. 02_05_21C_030
FAILURE TO COMPLY WITH COMPLIANCE ORDER NO. 02_05_21R_001 AND CITATION NO. 02_05_21C_021

Enclosed is Citation No. 02_05_21C_030 (hereinafter "Citation"), issued to the Big Basin Water Company (hereinafter "Big Basin WC") public water system. Please note that there are legally enforceable deadlines associated with this Citation.

*This Citation imposes an administrative penalty in the amount of **$21,000.00**; however, that penalty may be suspended and will only become fully due if Big Basin WC fails to comply with any of the directives set forth in the Citation by the deadlines indicated*.

If Big Basin WC continues operating as an out of compliance water system and does not respond to the State Water Board's enforcement actions, the State Water Board is prepared to invoke its authority under the California Health and Safety Code, Section §116665, specifically, "Whenever the department determines that any public water system is unable or unwilling to adequately serve its users, has been actually or effectively abandoned by its owners, or is unresponsive to the rules or orders of the department, the department may petition the superior court for the county within which the system has its principal office or place of business for the appointment of a receiver to assume possession of its property and to operate its system upon such terms and conditions as the court shall prescribe. The court may require, as a condition to the appointment of the receiver, that a sufficient bond be given by the receiver and be conditioned upon compliance with the orders of the court and the department, and the

protection of all property rights involved. The court may provide, as a condition of its order, that the receiver appointed pursuant to the order shall not be held personally liable for any good faith, reasonable effort to assume possession of, and to operate, the system in compliance with the order."

Big Basin WC will be billed at the State Water Resources Control Board's (hereinafter "State Water Board") hourly rate for the time spent on issuing this Citation. California Health and Safety Code (hereinafter "CHSC") Section 116577 provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including preparing, issuing and monitoring compliance with a citation. At this time, the State Water Board has spent approximately five hours on enforcement activities associated with this violation.

Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on Big Basin WC for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the State Water Board under Article 8 (commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter 4), may file a petition with the State Water Board for reconsideration of the citation, order or decision.

Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the State Water Board. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.

Information regarding filing petitions may be found at:

http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml

If you have any questions regarding this matter, please contact the Division of Drinking Water at dwpdist05@waterboards.ca.gov or (831) 655-6939.

Sincerely,

Jonathan Weininger Digitally signed by Jonathan Weininger
Date: 2021.10.28 12:08:38 -07'00'

Jonathan Weininger, PE
District Engineer, Monterey District
Division of Drinking Water

Enclosures

Certified Mail No. 7018 3090 0001 0464 6878

cc: Santa Cruz County Environmental Health Services
Marilyn Underwood, Marilyn.Underwood@santacruzcounty.us
Nathan Salazar, Nathan.Salazar@santacruzcounty.us
Sierra Ryan, Sierra.Ryan@santacruzcounty.us

California Public Utilities Commission (CPUC) Water Division
Moises Chavez, moises.chavez@cpuc.ca.gov
Wilson Tsai, wilson.tsai@cpuc.ca.gov

Santa Cruz County Board of Supervisors,
BoardOfSupervisors@santacruzcounty.us

Citation No. 02_05_21C_030

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Name of Public Water System: Big Basin Water Company

Water System No: 4410001

Attention: Jim Moore, Manager

PO Box 197

Boulder Creek, CA 95006

Issued: October 28, 2021

CITATION FOR NONCOMPLIANCE

FAILURE TO COMPLY WITH COMPLIANCE ORDER NO. 02_05_21R_001 AND CITATION NO. 02_05_21C_021

The California Health and Safety Code (hereinafter "CHSC"), Section 116650 authorizes the State Water Resources Control Board (hereinafter "State Water Board"), to issue a citation to a public water system when the State Water Board determines that the public water system has violated or is violating the California Safe Drinking Water Act (hereinafter "California SDWA"), (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit, or order issued or adopted thereunder.

The State Water Board, acting by and through its Division of Drinking Water (hereinafter "Division"), and the Deputy Director for the Division, hereby issues Citation No. 02_05_21C_030 (hereinafter "Citation"), pursuant to Section 116650 of the CHSC to the Big Basin Water Company (hereinafter "Big Basin WC"), for violation of Compliance Order No. 02_05_21R_001 and Citation No. 02_05_21C_021.

STATEMENT OF FACTS

Big Basin WC is classified as a community water system and serves a population of 1,120 through 482 connections (information from the 2020 Electronic Annual Report to the Division of Drinking Water (EAR)). The population and service connections listed in the 2020 EAR reflect reduced numbers following the August 2020 CZU Lightning Complex Fire, which destroyed or damaged a portion of Big Basin WC's customer connections. Big Basin WC operates under Domestic Water Supply Permit No. 02-05-44-94P-001, issued by the State Water Board on February 11, 1994.

On April 9, 2021, the State Water Board issued Compliance Order No. 02_05_21R_001 (Appendix 1) for noncompliance with California Code of Regulations (CCR), Title 22, Section 64554(a)(2), CHSC Section 116555 (a)(3), and failure to comply with the 2018 Sanitary Survey Deficiency List. To date, Big Basin WC has not complied with portions of Directives 1, 2, 3, 4, and 7 from Compliance Order No. 02_05_21R_001, as more fully described below.

1. Directive 1: By June 10, 2021, [extended to **July 16, 2021,** by letter dated June 24, 2021] submit to the State Water Board for review and approval a compliance action plan prepared by a licensed California professional engineer. The compliance action plan must include the following elements:
    a. A proposal to comply with the source capacity requirements of CCR, Title 22, Section 64554 (a)(2), including a schedule for completion of each

project phase. As a minimum, the schedule must include the following project phases: environmental review, design, construction, permitting, inspection, and startup. The plan must include an anticipated date when Big Basin WC will achieve compliance with CCR, Title 22, Section 64554(a). The completion date must be no later than March 10, 2022, unless otherwise approved by the State Water Board.

b. A schedule for removal and replacement of all fire-damaged infrastructure, including, but not limited to, service laterals, mains, transmission lines, storage tanks, etc.

c. An analysis of Big Basin WC's financial capacity to complete the projects listed in the compliance action plan.

[The Division has not received the compliance action plan.]

2. Directive 2 - by **May 10, 2021**, submit to the State Water Board a water contingency plan that describes how Big Basin WC will secure a temporary water supply in the event of an outage or failure of Well 4. In addition to any other options for temporary supply, Big Basin WC must present a feasibility analysis for obtaining an emergency or permanent interconnection to a neighboring public water system, sized to reliably provide water to all Big Basin WC customers.

[*The Division received a water contingency plan from Big Basin WC on June 10, 2021, which included a proposal to install a temporary surface water treatment plant at the existing site for the old surface water treatment plant that was destroyed by the CZU Lightening Complex Fire. The Division responded with a letter dated May 26, 2021, requesting additional information on the treatment plant, timeline on the duration of the temporary surface water treatment plant installation, and a permit amendment application. The permit amendment*

application, and supporting documentation was submitted on June 28, 2021. The Division requested an update on treatment plant installation via emails dated August 25, 2021 and September 16, 2021; to date, the Division has not received an update from Big Basin WC.

Big Basin WC's engineering consultant provided the Division with an update letter, dated June 10, 2021, which provided a feasibility analysis of a potential interconnection between Big Basin WC and the San Lorenzo Valley Water District. The letter concluded the interconnection was not feasible; however, in follow-up communication, the engineering consultant was continuing to research the feasibility. The Division recommends Big Basin WC continue to communicate with neighboring water systems and evaluate the feasibility of installing an interconnection.]

3. Directive 3 - by June 10, 2021, [extended to **August 10, 2021,** by letter dated June 24, 2021] submit to the State Water Board for approval a schedule for completing the corrective actions identified in Big Basin WC's March 3, 2019, response to the 2018 sanitary survey letter (Appendix 1). The plan must include a schedule and project list to correct existing storage tank, booster station, and distribution system deficiencies. Unless specified below, the plan may exclude any deficiencies related to fire-damaged infrastructure, such as the Jamison SWTP and raw surface water sources. The State Water Board will consider each project completed after adequate documentation and photos have been sent and approved by the State Water Board. State Water Board confirmation may include site visits. As a minimum, the schedule must include the following projects mentioned in the 2018 sanitary survey and March 3, 2019, Big Basin WC response letter:

a. Letter Section 3.3.3 - remove the cross connection between the Jamison Reservoir and the distribution system
b. Letter Section 3.6 - remove the Robin Hood Tank #2 (Horizontal Tank) from service
c. Letter Section 3.7 - Galleon Heights Booster Station and Storage Tank improvements
d. Letter Section 3.8.1 – Galleon Heights Tank improvements.
e. Letter Section 3.8.2 – Tradewinds pressure system improvements.
f. Letter Section 3.10 – Rancho Dia Tank replacement.
    i. The State Water Board understands this tank was destroyed in the CZU Lightning Complex Fire, but Big Basin WC must provide details on tank replacement at this site or provide a hydraulic model that demonstrates adequate water system operations without this tank
g. 3.11 – Oberst Tank replacement
h. 3.12 – Bloom Grade Tank improvements
i. 3.13 and 3.14 – Create a main replacement program that includes adding distribution system isolation valves.

The completion date for the projects listed above must be no later than **February 28, 2023**.

[The Division only received proof of completion of Directive 3 (a). The Division has not received a schedule for addressing the remaining corrective actions listed in Directive 3 (items b through i).]

4. Directive 4 - by July 10, 2021, [extended to **July 16, 2021,** by letter dated June 24, 2021], submit to the State Water Board for review and approval a Water

System Operations and Maintenance Plan (O&M plan) pursuant to CCR, Title 22, Section 64600. The O&M plan must include the following elements:

a. A plan and procedures for responding to water supply emergencies, which also includes a power outage response plan that describes how Big Basin WC will supply water during a power outage. As a minimum, the power outage response plan must include the following items:
    i. Preparation protocol for an anticipated, planned power shutoff including filling storage tanks, site visits, water conservation notification, etc.
    ii. Identification of critical sites requiring backup power to supply all pressure zones with a system pressure no less than 20 psi during a power outage.
    iii. Documentation demonstrating ownership and/or rental contracts to obtain backup power at Well 4 and other identified critical sites before a planned power outage and at the onset of an unplanned power outage.
    iv. The process for transporting and installing portable backup power during a power outage at the locations identified as critical for sustained operation in all pressure zones but do not have on-site back power generators.
    v. Contact information for neighboring water systems, the State Water Board, Santa Cruz County Environmental Health, emergency response networks, and other contacts needed during a power outage.
    vi. The procedure for initiating and distributing public notification in accordance with California Code of Regulations, Title 22, Sections 64663 and 64665 and with State Water Board review and approval.

b. An operations and maintenance schedule for Well 4 and the chlorination system;
c. A schedule and procedure for flushing dead end mains, and procedures for disposal of the flushed water including dechlorination;
d. A schedule for routine inspection of tanks, and procedures for cleaning tanks;
e. A schedule and procedures for inspecting, repairing, and replacing water mains;
f. A plan and procedures for responding to consumer complaints;
g. A schedule and procedures for routine exercising of water main valves;
h. A schedule and program for maintenance and calibration of source flow meters and other online instruments used to determine the quality or quantity of water;
i. The qualifications and training of operating personnel;

[The Division has not received the operations and maintenance plan.]

5. Directive 7 - by **April 10, 2021,** and every 10th of the month thereafter, submit a monthly progress report to the State Water Board showing actions taken during the previous calendar month to comply with the corrective action plans required by Directives 1 and 3, using the form provided as Appendix 2 hereto. For each milestone addressed in the monthly progress report, describe the progress made during the past month, specify if the milestone was completed and if not completed, provide a reason and an estimated date of completion.

[The Division received document submittals from Big Basin WC's engineering consultant, but the Division has not received monthly progress reports from Big Basin WC by the 10th day of the following month.]

On August 19, 2021, the State Water Board issued Citation No. 02_05_21C_021 (Appendix 2) for failure to comply with the CHSC, Section 116555 (a)(3) and CCR, Title 22, Section 64602 after not providing a reliable supply of potable water to the Galleon Heights pressure zone. Big Basin WC has not complied with the following directive from Citation No. 02_05_21C_021:

1. Directive 1 - by **September 16, 2021**, submit to the State Water Board a corrective action plan that includes a schedule for replacing the pumps and appurtenances at the Galleon Heights booster station and installing reliability features, such as alarms and backup power capabilities, with a final completion date no later than November 30, 2021. The plan must ensure that the Galleon Heights pressure zone distribution system pressure can be reliably maintained without outages.

   [The Division has not received the Galleon Heights booster station corrective action plan.]

DETERMINATION

The State Water Board has determined that Big Basin WC has failed to comply with Directives 1, 2, 3, 4, and 7 of Compliance Order No. 02_05_21R_001, issued on April 9, 2021, and Directive 1 of Citation No. 02_05_21C_021, dated August 19, 2021.

PENALTY PURSUANT TO HEALTH AND SAFETY CODE SECTION 116650

The State Water Board hereby assesses upon Big Basin WC an administrative penalty in the amount of **$21,000.** However, should the State Water Board receive proof of completion of each of the following Directives 1, 2, 3, 4, 5, 6, and 7 by **January 31, 2022**, and should the State Water Board deem such proof adequate as to the

completion of each directive, the State Water Board will permanently stay and will not seek collection of up to **$21,000** of the **$21,000** penalty. In such case, the State Water Board will promptly inform Big Basin WC by letter of the final penalty amount. Big Basin WC is directed to pay this penalty in accordance with the requirements set forth in Directive 8 of this Citation.

DIRECTIVES

Big Basin WC is hereby directed to take the following actions:

1. By **December 31, 2021**, provide proof to the State Water Board that Big Basin WC has an additional temporary or permanent approved water supply source capable of supplying the distribution system in the event of a Well 4 outage.

2. By **December 31, 2021**, submit to the State Water Board a corrective action plan that includes a schedule for replacing the pumps and appurtenances at the Galleon Heights booster station and installing reliability features, such as alarms and backup power capabilities, with a final completion date no later than **January 31, 2022**. The plan must ensure that the Galleon Heights pressure zone distribution system pressure can be reliably maintained without outages.

3. By **December 31, 2021**, submit a permit amendment application package to the State Water Board requesting to add at least one additional permanent water source. The application must include documentation demonstrating compliance with the California Environmental Quality Act (CEQA), water rights, water quality, and all other documentation requested by the State Water Board. Please contact the State Water Board for a full list of requirements.

4. By **January 31, 2022**, submit to the State Water Board for review and approval a compliance action plan prepared by a licensed California professional engineer. The compliance action plan must include the following elements:
    a. A proposal to comply with the source capacity requirements of CCR, Title 22, Section 64554 (a)(2), including a schedule for completion of each project phase. As a minimum, the schedule must include the following project phases: environmental review, design, construction, permitting, inspection, and startup. The plan must include an anticipated date when Big Basin WC will achieve compliance with CCR, Title 22, Section 64554(a). The completion date must be no later than March 10, 2022, unless otherwise approved by the State Water Board.
    b. A schedule for removal and replacement of all fire-damaged infrastructure, including, but not limited to, service laterals, mains, transmission lines, storage tanks, etc.
    c. An analysis of Big Basin WC's financial capacity to complete the projects listed in the compliance action plan.

5. By **December 31, 2021**, submit to the State Water Board for approval a schedule for completing the remaining corrective actions identified in Big Basin WC's March 3, 2019, response to the 2018 sanitary survey letter (Appendix 1). The plan must include a schedule and project list to correct existing storage tank, booster station, and distribution system deficiencies. Unless specified below, the plan may exclude any deficiencies related to fire-damaged infrastructure, such as the Jamison SWTP and raw surface water sources. The State Water Board will consider each project completed after adequate documentation and photos have been sent and approved by the State Water Board. State Water Board confirmation may include site visits. As a minimum, the schedule must include

the following projects mentioned in the 2018 sanitary survey and March 3, 2019, Big Basin WC response letter:

a. Letter Section 3.6 - remove the Robin Hood Tank #2 (Horizontal Tank) from service
b. Letter Section 3.7 - Galleon Heights Storage Tank improvements
c. Letter Section 3.8.1 – Galleon Heights Tank improvements.
d. Letter Section 3.8.2 – Tradewinds pressure system improvements.
e. Letter Section 3.10 – Rancho Dia Tank replacement.
    i. The State Water Board understands this tank was destroyed in the CZU Lightning Complex Fire, but Big Basin WC must provide details on tank replacement at this site or provide a hydraulic model that demonstrates adequate water system operations without this tank
f. 3.11 – Oberst Tank replacement
g. 3.12 – Bloom Grade Tank improvements
h. 3.13 and 3.14 – Create a main replacement program that includes adding distribution system isolation valves.

The completion date for the projects listed above must be no later than **February 28, 2023**.

6. By **December 31, 2021**, submit to the State Water Board for review and approval a Water System Operations and Maintenance Plan (O&M plan) pursuant to CCR, Title 22, Section 64600. The O&M plan must include the following elements:
    a. A plan and procedures for responding to water supply emergencies, which also includes a power outage response plan that describes how Big Basin WC will supply water during a power outage. As a minimum, the power outage response plan must include the following items:

i. Preparation protocol for an anticipated, planned power shutoff including filling storage tanks, site visits, water conservation notification, etc.

ii. Identification of critical sites requiring backup power to supply all pressure zones with a system pressure no less than 20 psi during a power outage.

iii. Documentation demonstrating ownership and/or rental contracts to obtain backup power at Well 4 and other identified critical sites before a planned power outage and at the onset of an unplanned power outage.

iv. The process for transporting and installing portable backup power during a power outage at the locations identified as critical for sustained operation in all pressure zones but do not have on-site back power generators.

v. Contact information for neighboring water systems, the State Water Board, Santa Cruz County Environmental Health, emergency response networks, and other contacts needed during a power outage.

vi. The procedure for initiating and distributing public notification in accordance with California Code of Regulations, Title 22, Sections 64663 and 64665 and with State Water Board review and approval.

b. An operations and maintenance schedule for Well 4 and the chlorination system;

c. A schedule and procedure for flushing dead end mains, and procedures for disposal of the flushed water including dechlorination;

d. A schedule for routine inspection of tanks, and procedures for cleaning tanks;

e. A schedule and procedures for inspecting, repairing, and replacing water mains;

f. A plan and procedures for responding to consumer complaints;

g. A schedule and procedures for routine exercising of water main valves;

h. A schedule and program for maintenance and calibration of source flow meters and other online instruments used to determine the quality or quantity of water;

i. The qualifications and training of operating personnel;

7. By **November 10, 2021,** and every 10th of the month thereafter, submit a monthly progress report to the State Water Board showing actions taken during the previous calendar month to comply with the corrective action plans required by Directives 1 and 3, using the form provided as Appendix 2 hereto. For each milestone addressed in the monthly progress report, describe the progress made during the past month, specify if the milestone was completed and if not completed, provide a reason and an estimated date of completion.

8. Submit to the State Water Board by **February 10, 2022**, a check for the administrative penalty of **$21,000** imposed by this Citation and a copy of the form, which is attached as Appendix 1, hereto entitled "Notice of Administrative Penalty." The Citation number must be written on the check. The check must be made payable to the **State Water Resources Control Board** and submitted to:

SWRCB Accounting Office
ATTN: Drinking Water Program Fees
P.O. Box 1888
Sacramento, CA 95812-1888

All submittals required by this Citation, unless otherwise specified in the directives above, must be electronically submitted to the State Water Board at the following address. The subject line for all electronic submittals corresponding to this Citation must include the following information: Water System name and number, citation number and title of the document being submitted.

Jonathan Weininger, Monterey District Engineer
Dwpdist05@waterboards.ca.gov

The State Water Board reserves the right to make modifications to this Citation as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Citation and shall be effective upon issuance. Nothing in this Citation relieves Big Basin WC of its obligation to meet the requirements of the California SDWA (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit or order issued or adopted thereunder.

PARTIES BOUND

This Citation shall apply to and be binding upon Big Basin WC, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

SEVERABILITY

The directives of this Citation are severable, and Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or

continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Citation.

Stefan Cajina

Digitally signed by Stefan Cajina
Date: 2021.10.28 14:19:10 -07'00'

Water Boards

_____ October 28, 2021

Stefan Cajina, P.E., Chief Date
North Coastal Section
State Water Resources Control Board
Division of Drinking Water

Appendices (3):

1. Copy of Compliance Order No. 02_05_21R_001
2. Copy of Citation No. 02_05_21C_021
3. Notice of Administrative Penalty Form

Certified Mail No. 7018 3090 0001 0464 6878

APPENDIX 1 - COPY OF COMPLIANCE ORDER NO. 02_05_21R_001

State Water Resources Control Board

Division of Drinking Water

April 9, 2021

System No. 4410001

Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
bbwater197@yahoo.com

COMPLIANCE ORDER NO. 02_05_21R_001_4410001
FAILURE TO PROVIDE AN ADEQUATE SUPPLY OF PURE, WHOLESOME, HEALTHFUL, AND POTABLE WATER, &
NONCOMPLIANCE WITH SOURCE CAPACITY REQUIREMENTS, &
NONCOMPLIANCE WITH THE 2018 SANITARY SURVEY REPORT DEFICIENCY LIST

Enclosed is Compliance Order No. 02_05_21R_001 (hereinafter "Order"), issued to the Big Basin Water Company (hereinafter "Big Basin WC") public water system. Please note that there are legally enforceable deadlines associated with this Order.

Big Basin WC will be billed at the State Water Resources Control Board's (hereinafter "State Water Board") hourly rate for the time spent on issuing this Order. California Health and Safety Code (hereinafter "CHSC") Section 116577 provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including preparing, issuing and monitoring compliance with an order. At this time, the State Water Board has spent approximately five hours on enforcement activities associated with this violation.

Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on Big Basin WC for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the State Water Board under Article 8

(commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter 4), may file a petition with the State Water Board for reconsideration of the citation, order or decision.

Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the State Water Board. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.

Information regarding filing petitions may be found at:

http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml

If you have any questions regarding this matter, please contact the Division of Drinking Water at dwpdist05@waterboards.ca.gov or (831) 655-6939.

Sincerely,

Stefan Cajina
Digitally signed by Stefan Cajina
Date: 2021.04.09 12:53:32 -07'00'
Water Boards

Stefan Cajina, P.E., Chief
North Coastal Section
Division of Drinking Water
State Water Resources Control Board

Enclosures

Certified Mail No. 7016 2070 0000 1417 3236

cc: Santa Cruz County Environmental Health Services
Marilyn Underwood, Marilyn.Underwood@santacruzcounty.us
Nathan Salazar, Nathan.Salazar@santacruzcounty.us
Sierra Ryan, Sierra.Ryan@santacruzcounty.us

California Public Utilities Commission (CPUC) Water Division
Moises Chavez, moises.chavez@cpuc.ca.gov
Will Dundon, Will.Dundon@cpuc.ca.gov
Stephen St. Marie, Stephen.St.Marie@cpuc.ca.gov

Compliance Order No. 02_05_21R_001

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Name of Public Water System: Big Basin Water Company

Water System No: 4410001

Attention: Jim Moore, Manager

PO Box 197

Boulder Creek, CA 95006

Issued: April 9, 2021

COMPLIANCE ORDER FOR NONCOMPLIANCE

SOURCE CAPACITY REQUIREMENTS

CALIFORNIA CODE OF REGULATIONS

TITLE 22, SECTION 64554(a)(2)

AND CALIFORNIA HEALTH AND SAFETY CODE SECTION 116555 (a)(3)

The California Health and Safety Code (hereinafter "CHSC"), Section 116655 authorizes the State Water Resources Control Board (hereinafter "State Water Board"), to issue a Compliance Order to a public water system when the State Water Board determines that the public water system has violated or is violating the California Safe Drinking Water Act (hereinafter "California SDWA"), (CHSC, Division 104, Part 12,

Chapter 4, commencing with Section 116270), or any regulation, standard, permit, or order issued or adopted thereunder.

The State Water Board, acting by and through its Division of Drinking Water (hereinafter "Division"), and the Deputy Director for the Division, hereby issues Compliance Order No. 02_05_21R_001 (hereinafter "Order"), pursuant to Section 116655 of the CHSC to the Big Basin Water Company (hereinafter "Big Basin WC"), for violation of CHSC, Section 116555 and CCR, Title 22, Section 64554(a)(2).

STATEMENT OF FACTS

Big Basin WC is classified as a community water system and serves a population of 1,694 through 605 connections (information from the 2019 Electronic Annual Report to the Division of Drinking Water (EAR)). Following the August 2020 CZU Lightning Complex Fire, a portion of Big Basin Water Company customer connections were destroyed or damaged, so the current population and customer connection count is lower than reported in the 2019 EAR. Big Basin WC operates under Domestic Water Supply Permit No. 02-05-44-94P-001, issued by the State Water Board on February 11, 1994.

Prior to the August 2020 CZU Lightning Complex Fire, Big Basin Water Company's water sources included treated surface water and groundwater. Sources included groundwater from Well 4 and surface water from Corvin Creek, Jamison Springs, and Horizontal Well No. 5, which supplied the Jamison Surface Water Treatment Plant (Jamison SWTP). Jamison SWTP was a 150 gallons per minute (gpm) capacity treatment plant with two parallel 75 gpm-rated Trident Microfloc upflow contact clarification/filtration units that included coagulation using aluminum sulfate and disinfection with liquid sodium hypochlorite. The State Water Board's 2018 sanitary survey report identified Big Basin WC's noncompliance with source capacity regulations

and included a deadline of December 31, 2019 for Big Basin WC to send a report identifying progress made on increasing source capacity. In a March 3, 2019 letter responding to the sanitary survey report, Big Basin WC proposed the following plan to address its source capacity deficiency:

> *"Proposed Corrective Action: BBWC will contract with a professional engineering consultant to conduct well tests of its groundwater sources and review its surface water capacity to determine necessary steps to increase its source capacity is in accordance with current regulations.*
>
> *Proposed Year for Corrective Action to be Complete: 2020.*
>
> *Total Estimated Cost: $25,000."*

The State Water Board has not received this source capacity evaluation from Big Basin WC.

The August 2020 CZU Lightning Complex Fires destroyed the Jamison SWTP and several other water system facilities. Following the loss of the Jamison SWTP, Big Basin WC currently has only one potable water source, Well 4, and cannot meet source capacity requirements.

Pursuant to CCR, Title 22, Section 64554(a), as a public water system serving less than 1,000 service connections, Big Basin WC is required to have sufficient source capacity to meet the system's 10-year maximum day demand, which is determined pursuant to CCR, Title 22, Section 64454(b). The past 10 years of production data, as reported in Electronic Annual Reports to the State Water Board, are listed in the following table:

Past 10 Years of Production Data (2010-2019) in Million Gallons (MG)			
Year	**Max Day**	**Max Month**	**Year Total**
2019	*0.35*	7.32	67.0
2018	*0.26*	5.39	52.44
2017	*0.37*	7.62	64.51
2016	*0.51*	10.6	78.43
2015	*0.34*	7.09	68.38
2014	*0.48*	9.35	74.18
2013	Big Basin WC did not send a 2013 EAR.		
2012	***0.62***	12.71	98.92
2011	*0.59*	12.21	83.38
2010	*0.43*	8.91	56.71

Note: italicized values indicate a calculated value using Section 64554 guidelines.

Additionally, Big Basin WC is required to meet its 10-year maximum day demand with storage capacity, unless it can demonstrate that it has additional source capacity or an intertie with a nearby system.

The 72-hour pumping test for Well 4, conducted in 1980, demonstrated a maximum capacity of 288 gpm. CCR, Title 22, Section 64554 (g) specifies hard rock well source capacity as 25 percent of the maximum capacity; therefore, the capacity of Well 4 is 72 gpm (288 gpm * 0.25 = 72 gpm) or 0.104 million gallons per day (MGD).

With a 10-year maximum day demand of 0.62 MGD (2012) and an available source capacity of 0.104 MGD, Big Basin Water Company cannot meet the 10-year maximum day demand.

Big Basin WC does not have a second water source or a permanent interconnection to a nearby water system to ensure potable water supply in the event Well 4 fails or is out of service for maintenance, repairs, power outage, or other reasonably foreseeable events. Therefore, Big Basin WC cannot demonstrate the ability to provide a reliable and adequate supply of pure, wholesome, healthful, and potable water as required by CHSC, Section 116555 (a)(3).

Prior to the August 2020 CZU Lightning Complex fires, the State Water Board documented sanitary hazards and operational deficiencies found at Big Basin WC in the 2016 sanitary survey report (dated December 21, 2016), the 2018 sanitary survey report (dated January 10, 2019), and the 2020 surface water treatment plant evaluation (dated February 25, 2020).

During the 2019 Public Safety Power Shutoff (PSPS) program administered by Pacific Gas and Electric (PG&E) in Northern California, electricity was shut off in targeted geographic areas when heightened fire risk weather conditions were forecast. During two PSPS events in October 2019, with advance notice from PG&E that power shutoffs were imminent, Big Basin WC was not prepared and ultimately experienced a water outage on October 28 and 29, 2019, which prompted Big Basin WC to issue a precautionary boil water notice in conjunction with the State Water Board. In a letter dated February 3, 2020, the State Water Board requested a power outage response plan from Big Basin WC, with a deadline to submit the plan by February 28, 2020. The deadline was later extended to March 2, 2020 in the 2020 surface water treatment plant evaluation letter (dated February 25, 2020). The State Water Board has not received a power outage response plan from Big Basin WC.

Big Basin WC has a documented history of failing to administer preventative maintenance, emergency preparedness, and customer complaint programs. This lack of

preparation and inadequate customer communication has contributed to Big Basin WC failing to reliably supply its customers with potable water during emergency events, including the 2019 PG&E Power Safety Shutoffs and the August 2020 CZU Lightning Complex Fire. These deficiencies constitute an ongoing threat of failure to provide a reliable and adequate supply of pure, wholesome, healthful, and potable water as required by CHSC, Section 116555 (a)(3).

DETERMINATION

The State Water Board has determined that Big Basin WC cannot provide an adequate and reliable supply of water pursuant to CHSC, Section 116555 (a)(3) and has failed to comply with source capacity requirements pursuant to CCR, Title 22, Sections 64554(a)(2).

DIRECTIVES

Big Basin WC is hereby directed to take the following actions:

1. By **June 10, 2021**, submit to the State Water Board for review and approval a compliance action plan prepared by a licensed California professional engineer. The compliance action plan must include the following elements:
    a. A proposal to comply with the source capacity requirements of CCR, Title 22, Section 64554 (a)(2), including a schedule for completion of each project phase. As a minimum, the schedule must include the following project phases: environmental review, design, construction, permitting, inspection, and startup. The plan must include an anticipated date when Big Basin WC will achieve compliance with CCR, Title 22, Section 64554(a). The completion date must be no later than **March 10, 2022**, unless otherwise approved by the State Water Board.

b. A schedule for removal and replacement of all fire-damaged infrastructure, including, but not limited to, service laterals, mains, transmission lines, storage tanks, etc.

c. An analysis of Big Basin WC's financial capacity to complete the projects listed in the compliance action plan.

2. On or before **May 10, 2021**, submit to the State Water Board a water contingency plan that describes how Big Basin WC will secure a temporary water supply in the event of an outage or failure of Well 4. In addition to any other options for temporary supply, Big Basin WC must present a feasibility analysis for obtaining an emergency or permanent interconnection to a neighboring public water system, sized to reliably provide water to all Big Basin WC customers.

3. On or before **June 10, 2021**, submit to the State Water Board for approval a schedule for completing the corrective actions identified in Big Basin WC's March 3, 2019 response to the 2018 sanitary survey letter (Appendix 1). The plan must include a schedule and project list to correct existing storage tank, booster station, and distribution system deficiencies. Unless specified below, the plan may exclude any deficiencies related to fire-damaged infrastructure, such as the Jamison SWTP and raw surface water sources. The State Water Board will consider each project completed after adequate documentation and photos have been sent and approved by the State Water Board. State Water Board confirmation may include site visits. As a minimum, the schedule must include the following projects mentioned in the 2018 sanitary survey and March 3, 2019 Big Basin WC response letter:

   a. Letter Section 3.3.3 - remove the cross connection between the Jamison Reservoir and the distribution system

b. Letter Section 3.6 - remove the Robin Hood Tank #2 (Horizontal Tank) from service
c. Letter Section 3.7 - Galleon Heights Booster Station and Storage Tank improvements
d. Letter Section 3.8.1 – Galleon Heights Tank improvements.
e. Letter Section 3.8.2 – Tradewinds pressure system improvements.
f. Letter Section 3.10 – Rancho Dia Tank replacement.
    i. The State Water Board understands this tank was destroyed in the CZU Lightning Complex Fire, but Big Basin WC must provide details on tank replacement at this site or provide a hydraulic model that demonstrates adequate water system operations without this tank
g. 3.11 – Oberst Tank replacement
h. 3.12 – Bloom Grade Tank improvements
i. 3.13 and 3.14 – Create a main replacement program that includes adding distribution system isolation valves.

The completion date for the projects listed above must be no later than **February 28, 2023,** except item (a), removing the cross connection between the Jamison Reservoir and the distribution system, must be completed and verified no later than **June 10, 2021.**

4. On or before **July 10, 2021**, submit to the State Water Board for review and approval a Water System Operations and Maintenance Plan (O&M plan) pursuant to CCR, Title 22, Section 64600. The O&M plan must include the following elements:
    a. A plan and procedures for responding to water supply emergencies, which also includes a power outage response plan that describes how Big Basin

WC will supply water during a power outage. As a minimum, the power outage response plan must include the following items:

i. Preparation protocol for an anticipated, planned power shutoff including filling storage tanks, site visits, water conservation notification, etc.

ii. Identification of critical sites requiring backup power to supply all pressure zones with a system pressure no less than 20 psi during a power outage.

iii. Documentation demonstrating ownership and/or rental contracts to obtain backup power at Well 4 and other identified critical sites before a planned power outage and at the onset of an unplanned power outage.

iv. The process for transporting and installing portable backup power during a power outage at the locations identified as critical for sustained operation in all pressure zones but do not have on-site back power generators.

v. Contact information for neighboring water systems, the State Water Board, Santa Cruz County Environmental Health, emergency response networks, and other contacts needed during a power outage.

vi. The procedure for initiating and distributing public notification in accordance with California Code of Regulations, Title 22, Sections 64663 and 64665 and with State Water Board review and approval.

b. An operations and maintenance schedule for Well 4 and the chlorination system;

c. A schedule and procedure for flushing dead end mains, and procedures for disposal of the flushed water including dechlorination;

d. A schedule for routine inspection of tanks, and procedures for cleaning tanks;
e. A schedule and procedures for inspecting, repairing, and replacing water mains;
f. A plan and procedures for responding to consumer complaints;
g. A schedule and procedures for routine exercising of water main valves;
h. A schedule and program for maintenance and calibration of source flow meters and other online instruments used to determine the quality or quantity of water;
i. The qualifications and training of operating personnel;

5. On or before **September 10, 2021**, submit a permit amendment application package to the State Water Board requesting to add at least one additional permanent water source. The application must include documentation demonstrating compliance with the California Environmental Quality Act (CEQA), water rights, water quality, and all other documentation requested by the State Water Board. Please contact the State Water Board for a full list of requirements.

6. Perform the actions outlined in the State Water Board approved Corrective Action Plans required by Directives 1 and 3, and every element of said plan, according to the time schedule set forth therein.

7. On or before **April 10, 2021** and every 10th of the month thereafter, submit a monthly progress report to the State Water Board showing actions taken during the previous calendar month to comply with the corrective action plans required by Directives 1 and 3, using the form provided as Appendix 2 hereto. For each milestone addressed in the monthly progress report, describe the progress made

during the past month, specify if the milestone was completed and if not completed, provide a reason and an estimated date of completion.

8. By **April 27, 2021**, complete and return to the State Water Board the "Notification of Receipt" form attached to this Order as Appendix 3 Completion of this form confirms that Big Basin WC has received this Order and understands that it contains legally enforceable directives(s) with due dates.

All submittals required by this Order, unless otherwise specified in the directives above, must be electronically submitted to the State Water Board at the following address. The subject line for all electronic submittals corresponding to this Order must include the following information: Water System name and number, compliance order number and title of the document being submitted.

Jonathan Weininger, District Engineer

Dwpdist05@waterboards.ca.gov

The State Water Board reserves the right to make modifications to this Order as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Order and shall be effective upon issuance.

Nothing in this Order relieves the Big Basin Water Company of its obligation to meet the requirements of the California SDWA (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit or order issued or adopted thereunder.

PARTIES BOUND

This Order shall apply to and be binding upon Big Basin WC, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

SEVERABILITY

The directives of this Order are severable, and Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Order.

Stefan Cajina
Digitally signed by Stefan Cajina
Date: 2021.04.09 12:52:55 -07'00'
Water Boards

April 9, 2021

Stefan Cajina, P.E., Chief
North Coastal Section
Division of Drinking Water
State Water Resources Control Board

Date

Appendices (3):

1. Copy of “Response to 2018 Sanitary Survey of Big Basin Water Company” letter, dated March 3, 2019.
2. Progress Report Template
3. Notification of Receipt Form

Certified Mail No. 7016 2070 0000 1417 3236

APPENDIX 1: Copy of "Response to 2018 Sanitary Survey of Big Basin Water Company" letter, dated March 3, 2019.

Big Basin Water Co. & Sanitation
16575 Jamison Creek Rd., Boulder Creek, CA 95006
(831) 338 - 2933

March 3, 2019

Jan R. Sweigert, P.E.
District Engineer, Monterey District Office
Northern California Field Operations Branch
Division of Drinking Water

RE: Response to 2018 Sanitary Survey of Big Basin Water Company (No. 4410001)

Dear Ms. Sweigert,

On January 10, 2019, Big Basin Water Company received your 2018 Sanitary Survey report of the water treatment plant and distribution system. This letter and the enclosed documents provide a written response to the various deficiencies identified in the Sanitary Survey, as well as a list of the deficiencies and a plan to correct them. However, this plan and timeline for improvements is dependent on receiving the necessary funding as an outcome of the current Big Basin Water Company rate case filing with the California Public Utilities Commission.

If you have any questions, please contact Jim Moore at (831) 338 – 2933 or by email at bbwater197@yahoo.com.

Sincerely,

Jim Moore
Chief Operator/Owner
Big Basin Water Company

Enclosed:

1 – 2018 Sanitary Survey Response Memorandum
2 – Map of Existing System Layout and Proposed Corrective Actions
3 – Budgetary Cost Estimate of Improvements

Big Basin Water Co. & Sanitation
16575 Jamison Creek Rd., Boulder Creek, CA 95006
(831) 338 - 2933

Email cc:

Santa Cruz County Environment Health Services

CPUC Water Division
Rami Khalon, CPUC Director – Water Division
Bruce Deberry, CPUC Water Division
Adam Thaler, CPUC Water Division

CPUC Public Advocates Office
Pat Ma, CPUC PAO Program & Project Supervisor

2018 Sanitary Survey Response Memorandum

1. Introduction

This memorandum summarizes deficiencies and recommendations identified by the State Water Resource Control Board Division of Drinking Water (DDW) with proposed corrective actions to be taken by Big Basin Water Company (BBWC), including the timing of any improvements, construction costs to complete, and long-term strategies. The corrective actions presented below are grouped together based on the primary station where deficiencies were identified. An ordered list of the deficiencies as identified in the sanitary survey is available in the table at the end of this document.

2. Cost Estimating

Construction and maintenance costs presented herein are based on the following assumptions:

- All new construction will meet current application standards and codes
- Costs presented are based on general contractor, manufacturers, and/or professional engineering estimates
- Unless otherwise specified, retirement costs are not included with the cost estimate
- All construction is assumed to be design-build by the general contractor
- Costs included standard industry markups including Company Labor & Overhead (10%), Permits and Municipal Fees (3%), Construction Contingencies (15%)
- All costs are Present Valve (PV) for 2019
- Total estimated costs for identified corrective actions include costs for short-term and long-term solutions

3. Proposed CAPEX Corrective Actions

3.1. Well 4 Station

Identified Deficiency: Well 4 does not have a 50-foot sanitary seal and continually exerts a chlorine demand on system water that reduces the system chlorine residual. BBWC has been required to install chlorination at Well 4 since the 1994 permit from DDW but has not yet done so. BBWC must provide a plan for wellhead disinfection to DDW no later than March 10, 2019 and provide wellhead disinfection no later than May 20, 2019.

Proposed Corrective Action: In the short term, BBWC has installed a free chlorine injection system to improve the free chlorine residual in the distribution system. The electrical configuration of the chemical pump ensures that the pump only injects chlorine into the tank inlet piping when the groundwater well is operating (see Figure 1).

Figure 1. Temporary Disinfectant Injection Configuration at Well # 4

In the long term, a County permitted chemical storage and injection system will be installed. The system will include a 12.5% sodium hypochlorite solution. The solution will be stored with double containment consisting of a 55-gallon drum inside of a lockable polyethylene housing rated for the outdoors. This PE housing unit will be seated and anchored into a concrete foundation and will be located adjacent to the existing bolted steel tank. A peristaltic pump will inject free chlorine into the well discharge piping through a retractable injection assembly and using chemical piping and tubing to ensure double containment. The chemical pump will be activated whenever the groundwater well pump is running. Grab sampling from the tank outlet piping will confirm disinfectant levels entering the distribution system are adequate. Additional work will be performed to ensure that there is drainage away from the tank base.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $253,900

3.2. Corvin Creek Station

Identified Deficiency: The existing Corvin Creek sedimentation tank is in poor physical condition and shows signs of corrosion. Additionally, the reservoir is located on an unstable foundation. The reservoir could potentially tip over if a landslide or a strong seismic event occurred.

Proposed Corrective Action: The Corvin Creek sedimentation tank was originally constructed as a settling tank for the spring diversion but has since become obsolete. Currently, all raw water sources are conveyed to a more recently constructed 5,000 gallon polyethylene settling tank at Jamison station. Therefore, the Corvin Creek tank is no longer necessary for system operations and retirement of this asset is recommended. Existing piping and associated appurtenances at the existing tank site location will be modified to bypass the Corvin Creek tank using 6-inch PVC or HDPE piping.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $15,800

3.3. Jamison Station

3.3.1. Intake 1 Sedimentation Tank

Identified Deficiency: The intake includes a 2,000 gallon steel sedimentation tank in poor condition with signs of corrosion. BBWC needs to replace the tank and provide a stable foundation.

Proposed Corrective Action: The existing sedimentation tank has become obsolete since the construction of a 5,000 gallon polyethylene settling tank at Jamison station. Therefore, the Intake 1 sedimentation tank is no longer necessary for system operations and retirement of this asset is recommended. Existing piping and associated appurtenances at the existing tank site location will be modified to bypass the sedimentation tank using 6-inch PVC or HDPE piping.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $15,800

3.3.2. Intake Transmission Lines & Screen

Identified Deficiency: The previous steel transmission lines for both intake 1 and 2 are broken and flexible pipes have been installed temporarily. BBWC must install a permanent transmission line using NSF 61 materials. In addition, the screen on Intake 2 was not properly secured.

Proposed Corrective Action: Replace the existing intake piping with 6-inch PVC or HDPE pipe from each intake (approximately 700-ft of piping to be installed) with all air-valves, valving, blowoffs, and all necessary appurtenances to service the line. Install a new secured screen on Intake 2.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $95,500

3.3.3. Reservoir Cross Connection with Distribution System

Identified Deficiency: The Jamison surface water reservoir must be physically disconnected from the distribution system. Due to the nature of the cross connection (separated only by a closed isolation valve), BBWC must develop a well researched plan that reduces the risk of potable water contamination with raw surface water.

Proposed Corrective Action: The existing piping between Jamison Reservoir and the distribution system will be cut, capped, and separated with concrete to create a physical separation between these two sources of water, thereby eliminating all risk of cross connection at this location.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: $22,200

3.4. Hill House Station

Identified Deficiencies: Plants have grown around the site and need to be cut back around the tank perimeter. The tank is located adjacent to a home with its own well and tank. BBWC must ensure there are no cross connections and if the home is a customer of BBWC, the home owner has an approved reduce pressure assembly at their meter. The polyethylene tank does not have a foundation. As the budget allows, a more permanent foundation with seismic restraints should be installed. The tank site is not fenced. DDW recommends the site be fenced.

Proposed Corrective Action: BBWC has verified no cross connection exists and vegetation surrounding the tank has been cleared (see Figure 3). To secure the tank, BBWC will install a seismic restraint assembly consisting of four-way cables, cable clamps or clips, and anchor bolts. Anchor bolt length and depth to be determined by a soil or foundation engineer, similar to the example shown in Figure 2. BBWC will also install approximately 170 ft of fence surrounding the tank site with a 12-ft swing gate, as well as about 400 sf of base rock or gravel roadway to provide safer access to the site.

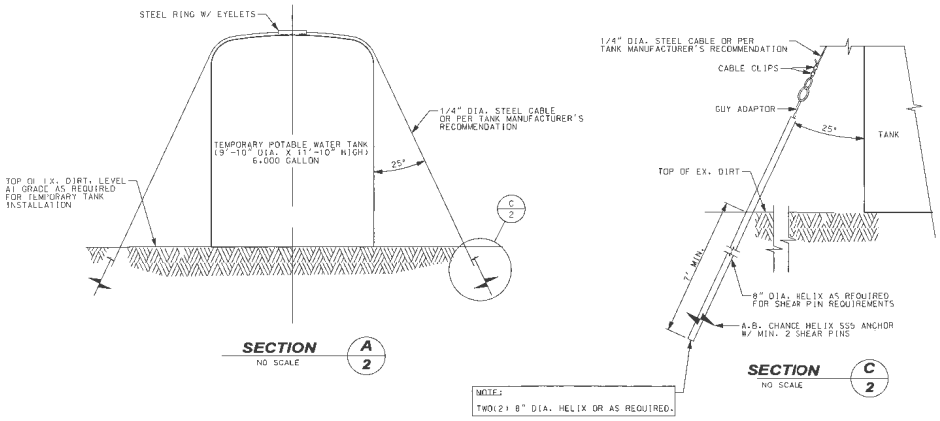


Figure 2. Example of Seismic Restraints

(Space for picture)

Commented [WJ1]: Jim – please delete note and insert picture here.

Figure 3. Vegetation cleared surrounding Hill House Tank

Proposed Year for Corrective Actions to be Complete: 2022

Total Estimated Cost: $34,200

3.5. Water Treatment Plant

Identified Deficiency: DDW noted the following issues at the water treatment plant:

- The filter unit nearest the entrance door has a break in the clarification media screen, which has allowed the buoyant clarification media to enter the filter cell. The loss of clarification media will affect treatment plant performance. The screen must be replaced with a new screen, and the lost clarification media must be replaced.

- BBWC is required to purchase and install a chlorine residual analyzer due to past violations of grab sampling requirements. The Division requested an approved chlorine residual analyzer to be installed by April 30, 2018, but BBWC has not purchased and installed an analyzer to date. A new continuous chlorine residual analyzer using an approved EPA method using must be installed.

- The treatment plant building is a wood building in poor overall condition. The plant was overrun with rodents, so the BBWC keeps cats in the treatment plant building. BBWC must repair building deficiencies including eliminating potential entrance points for domestic animals and rodents. BBWC should begin planning to replace the treatment plant building to address the rodent problem.

- Parts of the existing turbidimeter were replaced with parts from another turbidimeter. Due to the overall condition and age of the turbidimeter, BBWC must budget to replace the turbidimeter with a new EPA method certified turbidimeter no later than November 10, 2019. A manufacturer representative must evaluate the current turbidimeter for accuracy. BBWC must continue to perform calibrations according to the manufacturer's recommendations.

- Until a manufacturer representative has evaluated the turbidimeter, BBWC must have its laboratory analyze filtered water turbidity samples at least once every two weeks and report the result to the Division along with the turbidimeter turbidity reading.

- DDW recommends BBWC install an additional turbidimeter so there are turbidimeters on each filter unit. A backup turbidimeter should also be available, as required by Section 64659(a)(2), which states that standby replacement equipment should be available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection.

- DDW recommends BBWC install a new turbidimeter on each individual filter effluent (IFE) line.

Proposed Corrective Action: To address DDW's comments in the short term, BBWC intends to do the following work identified below. However, given the state of the existing WTP and that much of the infrastructure is now over 26 years old, it is clear that the existing plant is in need of a complete long-term evaluation. For this reason, BBWC is budgeting for a Water Treatment Plant Facilities Plan to be completed by a professional engineering consultant in 2020 (see Section 4.3).

- Repair filter screens as necessary and replace clarification media in both units
- Replace the Programmable Logic Controls (PLC) on both units. The existing PLCs are backed on cassette tapes, no longer supported by the manufacturer or any suppliers.
- Install a HACH CLT10sc Total Chlorine Analyzer with SC200 Controller on the treated water line sample tap to allow for continuous monitoring. The HACH chlorine analyzer is compliant with EPA Method 334.0 for reporting chlorine residual measurements. The analyzer allows for real-time control of disinfection processes by providing continuous readings and self-diagnostics to alert users when the process has changed or the instrument needs servicing.
- Clean the building and repair all holes and seal openings near windows, vents, and doors in the building to limit entrance points for animals. Install rodent bait stations around the exterior perimeter for the building and replace all the rotten or damaged wood siding.
- Replace the existing turbidimeter with two HACH TU5300 online laser turbidimeters; one on the effluent end of each filter unit. Purchase a third turbidimeter as backup to increase system reliability. Turbidimeters have real-time capabilities and are compliant with EPA Method 180.1. A list of turbidimeter alarms or shutdown set points will be provided to DDW.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $236,300

3.5.1. WTP Chemical Storage Tanks and Storage Building

Identified Deficiency: Chemical Storage Tanks have large holes in their lids and are corroded. Furthermore, the secondary containment is partially full of ponding liquid, which poses an unknown risk. BBWC needs to install new alum and chlorine storage tanks and store the tanks separately. Chlorine and Alum are of different chemical storage groups and as a safety precaution should not be stored together. One of the chemical storage tanks in the chemical storage building is double contained, but both chemical storage tanks are stored together in the same containment facility and next to each other. The chemicals should be further separated and not stored in the same double containment box. The Chemical Storage Tanks (chlorine and alum) have a treated water line (for dilution) plumbed directly into storage tank. A proper air gap must be provided between the treated water fill line and the chemical tanks.

Proposed Corrective Action: BBWC will replace the existing chemical storage building with a new County permitted chemical storage facility that includes a wooden roof structure and concrete foundation. Two lockable polyethylene modular spill pallet with chemical containment and rated for outdoor storage will be housed and anchored to the concrete pad. 55 gallon drums of sodium hypochlorite and aluminum sulfate will be stored separately in each of the modular spill pallets. BBWC will prepare and submit a Hazardous Materials Business Plan to the County. In the long-term, the Water Treatment Plant Facilities Plan will consider including a permanent indoor chemical storage facility as part of a new building consideration.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $149,000

3.5.2. WTP Backup Generator & Site Security

Identified Deficiency: BBWC does not have any backup power for the water treatment plant and this is the main source of supply into the system. In addition, the treatment plant is not secured by any fencing or gate.

Proposed Corrective Action: Install a 20-ft wide double swing gate and 950-ft of 6-ft high chain link fencing around all Jamison Station facilities as one enclosed area, which includes the sedimentation tank, chemical storage building, reservoir, WTP building, and storage tank. Install a 20-ft wide barrier gate at the entrance of the road leading to Jamison Station from Jamison Creek Road.

A backup generator will be considered in the Water Treatment Facilities Plan proposed as part of a long-term improvement plan to ensure the treatment plant can continue to operate and serve customers even in the event of a power outage.

The site security measures and backup generator will be addressed in 2022 following completion of the Water Treatment Plant Facilities Plan. At this time, only fencing costs are included below.

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: $119,300

3.6. Robin Hood (Tank #2) Station

Identified Deficiency: The Robin Hood bolted steel tank provides a storage capacity of 10,000 gallons and primarily serves as an equalization storage reservoir. The horizontal tank is supplied by gravity from the 40,000 gallon Robin Hood Tank laying at an approximate elevation of 1,300 feet. In its current state, the tank is in poor physical condition and does not meet existing drinking water standards. Fallen tree branches obstruct access to the reservoir. Moreover, the exterior of the reservoir shows signs of advanced corrosion. Additionally, the tank lays on an unstable wooden foundation without any strong supports.

Proposed Corrective Action: As a temporary solution, BBWC will install a 2-inch bypass pressure reducing valve, set an adequate setpoint to serve customers in the Kings Highway Zone, and bypass the existing the horizontal Robin Hood tank. Additional piping will also be installed as

needed in order to bypass Robin Hood Tank #2. As a long-term solution, BBWC plans to construct a complete 6-inch regulating station at the reservoir site. The new regulating station will supply the existing Kings Highway zone service area. Once the construction of the regulating station is completed, the existing Robin Hood horizontal tank will be properly retired. The new regulating station will incorporate a Singer 6-inch S106-PR-C-SM dual-rolling diaphragm. If the primary chamber within the diaphragm fails, the secondary chamber will take over and regulate the downstream pressure at a desired pre-determined setpoint. The 6-inch valve can sustain a maximum flow rate of 1,800 gpm exceeding both fire flow requirements and maximum day demands in the zone.

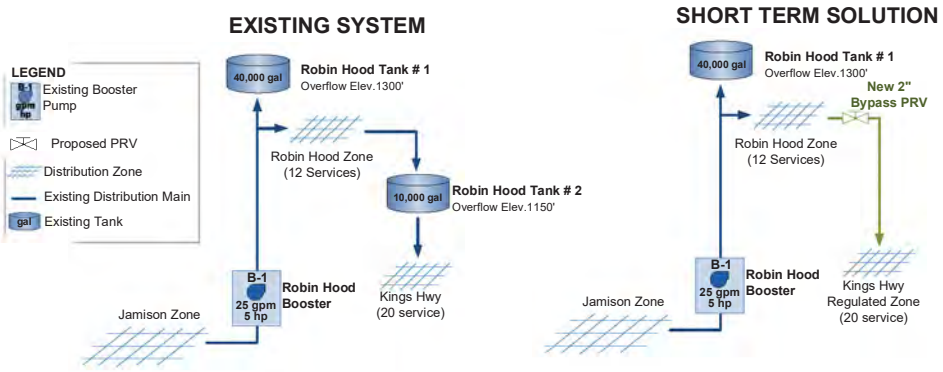


Figure 4. Proposed Corrective Action for Robin Hood Horizontal Tank (Tank # 2) – Short Term

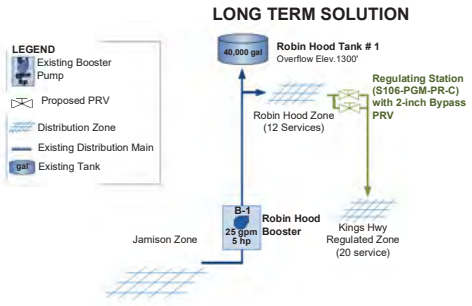


Figure 5. Proposed Corrective Action for Robin Hood Horizontal Tank (Tank # 2) – Long Term

Proposed Year for Corrective Action to be Complete: 2019 (2-inch bypass), 2023 (6-inch regulating station)

Total Estimated Cost: $130,800

3.7. Galleon Heights Booster Station and Storage Site

Identified Deficiencies: Several holes were observed on the wooden side panels of the pump house. Rodent droppings were present on above-grade piping and on the pump bodies. Rodent droppings can create unsanitary conditions and potentially contaminate the source of water supply water. Additionally, the Galleon pump station is severely oversized in comparison to the demands of the service area the pumps supply water to. Consequently, the surplus capacity of the booster pumps limit system operations flexibility, as the clearwell must remain close to its maximum level for the pumps to operate safely. Moreover, the pumps are in poor physical condition and exhibit signs of physical deterioration due to corrosion.

Proposed Corrective Actions: The existing wooden building has exceeded its useful life and will be replaced with a new wooden structure. The inside of the building will be cleaned and the piping will be sandblasted and recoated.

Existing booster pumps and motors will be replaced with two 100-gpm vertical in-line pumps to provide more reliable supply to the tank and replace the oversized equipment currently there. Electrical and logic controls will be installed to allow BBWC to operate pumps based on the water level in the Galleon tank and prevent overflow events. Scope of work would also include a new backup generator receptacle to allow for continued pumping operations to the Galleon reservoir in the occurrence of a power outage.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $125,200

3.8. Tradewinds (Galleon Heights Tank Site) Station

3.8.1. Galleon Heights Reservoir Improvements

Identified Deficiencies: The Tank Vent Screen located at the center of the roof reservoir is corroded. Depending on the size of the opening in the vent induced by corrosion, debris, living organisms and other non-desirable pathogens can make their way into the water supply. The roof access hatch does not include a seal. The sealing gasket has primary goals to prevent debris, pathogens and organisms to contaminate the water supply. The overflow terminates approximately two inches from the ground and does not ensure minimum standard clearance compliance. Screen at the bottom of the overflow pipe is not effective in its current configuration.

Proposed Corrective Actions: The installation of a new gasket seal around the existing hatch has already been completed as well as a #24 Mesh stainless steel screen to retrofit the existing vent screen (see Figures 6 and 7). As a temporary solution, to ensure the overflow pipe complies with existing air-gap requirements, BBWC has cut the overflow pipe and installed a new screen at the bottom of the overflow pipe (see Figure 8). As a long-term solution, BBWC will install a Tideflex Dechlorinating Overflow Security Assembly (DOSA). The DOSA will dechlorinate any overflow water to comply with the Statewide General NPDES Permit for Drinking Water Systems Discharges and prevent debris and insects from entering the tank. A new storm drain and piping will be also be installed to allow overflow water to drain away from the tank.

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Commented [WJ2]: Jim – please delete note and insert a picture here of the new hatch gasket.

Figure 6. Sealed Shoe-Box Hatch

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Commented [WJ3]: Jim – please delete note and insert picture here of the new vent screen.

Figure 7. New #24 Mesh Vent Screen

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Figure 8. Existing Overflow Pipe Cut and Screened

Included with this work will be the installation of a water level transducer, spread spectrum radio, and electrical work to enable the Galleon booster station to operate based on the water level inside the tank.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $61,400

3.8.2. Tradewinds Pressure System Improvements

Identified Deficiencies: The Tradewinds pressure system consists of three booster pumps, two bladder tanks, and a backup generator. Both pressure tanks were constructed in 1975 and have since become waterlogged due to ruptured bladders, and DDW identified these as needing to be removed or replaced. DDW also identified the existing piping in the pressure system as being aged and corroded, and in need of an overall improvement plan to address. The backup generator

has been out of service and needs to be fixed since this pressure system is the sole source of water for the customers in this pressure zone.

Proposed Corrective Actions: BBWC will replace both ruptured bladders inside the pressure tank with new Amtrol WX-456C bladder tanks. Existing piping and valving will be sandblasted and recoated. The existing generator has already been repaired and is now fully operational (see Figure 9). The existing roof and wood siding will also be replaced to protect the pumping equipment and ensure rodents do not enter the building.

Figure 9. Generator repaired and operational

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $136,400

3.9. China Grade (Camino Verde) Station

Identified Deficiency: The tank site is not secured and DDW recommends a perimeter fence be installed. BBWC must ensure that there are no connections to the previously used redwood tank and install a roof lock.

Proposed Corrective Action: Install 145 feet of 6-ft high chain link fencing surrounding the tank site with one 12-ft entry gate. Construct approximately 1,000 sf of base rock or gravel roadway for safe access to the site. BBWC has installed a roof lock (see Figure 10).

Figure 10: Roof lock on China Grade Tank.

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: $24,200

3.10. Rancho Dia (Santa Rosita) Station

Identified Deficiency: The redwood tank is a significant hazard due to the leaks, redwood condition, debris observed inside the tank, and many openings and breaks in the perimeter vent screen. According to Division records, the tank was constructed in 1958 and is past its useful life. Tank rehabilitation/replacement must be done in accordance with NSF 61, Waterworks Standards, and AWWA standards.

Proposed Corrective Action: To address the deficiency immediately, BBWC will disconnect the existing Rancho Dia Tank and install a 10,000 gallon polyethylene tank. This action will eliminate all hazards associated with the existing tank and ensure sufficient storage capacity is available to meet fire flow in the surrounding area. Once the existing redwood tank is removed from the site, the 10,000 gal polyethylene tank will be relocated and anchored to the existing tank foundation. In addition, a base rock or gravel roadway will be constructed for safer access to the site.

In the long-term, BBWC will evaluate retiring the Rancho Dia tank site all together. The Rancho Dia tank base elevation is lower than other storage facilities in Jamison zone, causing little to no turnover in the Rancho Dia tank and water age concerns. Installing a future regulator from the Hill House tank will satisfy customer demands, meet fire flow requirements, and eliminate the water age and hazards associated with the existing Rancho Dia tank site.

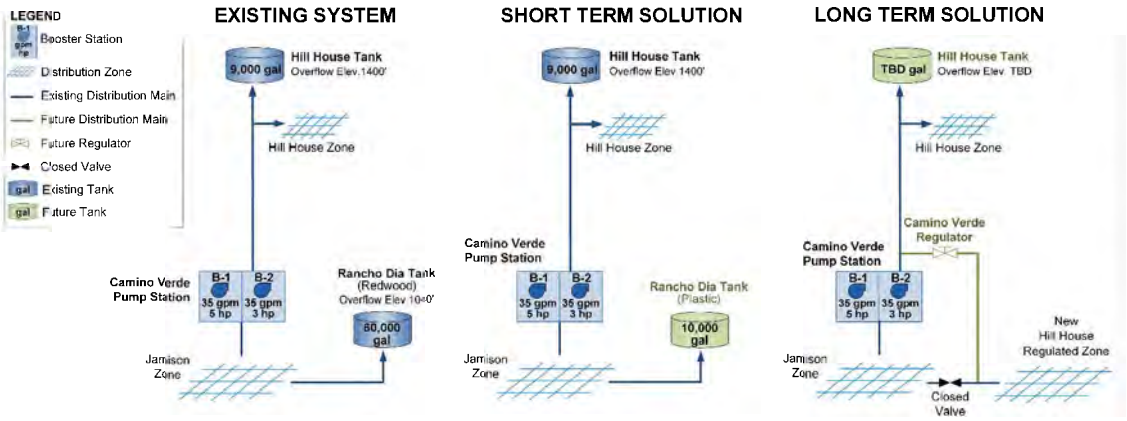

Figure 11: Rancho Dia and Hill House Short & Long-Term Solutions

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: $74,300

3.11. Oberst Station

Identified Deficiency: The Oberst tank is an aged small steel tank. The interior and exterior coatings are severely corroded. Large rust nodules were observed attached to the interior tank wall. The corrosion presents a sanitary and structural risk. BBWC must provide a plan and schedule for replacement of this tank no later than May 10, 2019. The replacement plan must include NSF 61, AWWA, and Waterworks Standards compliance and a plan to construct a tank foundation and provide proper seismic supports.

Proposed Corrective Action: BBWC will replace the Oberst tank with a 10,000 gallon polyethylene tank anchored to the existing foundation. BBWC will also install a fence surrounding the tank site with a 12-ft swing gate.

Figure 12: Oberst Station existing foundation

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: $64,600

3.12. Bloom Grade Station

Identified Deficiency: The tank site is not secured and DDW recommends a fence be constructed. Clarify Bloom Grade tank ownership, verify no cross connections exists, and install a tank drain and sample tap.

Proposed Corrective Action: Installation of about 170 ft of 6-ft high chain link fence surrounding the tank site with a 12-ft swing gate plus approximately 8,000 sf of base rock or gravel road to safely access the site. BBWC confirmed that no cross connection exists (see Figure 13). BBWC will install a tank drain and sample tap with other site improvements. BBWC is currently working with homeowners for easements and rights to access the tank.

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Figure 13: No cross connection exists with Bloom Grade tank

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $71,800

3.13. Isolation Valves

Identified Deficiency: According to BBWC, there are some stretches of mainline without an isolation valve for miles. DDW recommends BBWC review all records and install isolation valves in accordance with CCR Title 22 Waterworks Standards.

Proposed Corrective Action: BBWC has reviewed its as-builts and will bring the mainline into compliance with the Waterworks Standards. Bringing the mainline into compliance will require the installation of 14 new line valves, spaced no farther than 1,320 feet apart along water mains. The installation of five new line valves will ensure that the requirement pertaining to tee and crossing connections is met. A summary of the number of valves and cost is presented in Table 1.

Table 1. Summary of Distribution Valve Requirements

Size (inch)	No. Valves	Installation (Cost per Valve)	Total Cost
2	2	$6,000	$12,000
4	8	$8,000	$64,00
6	4	$11,000	$44,000
8	3	$16,000	$48,000
10	1	$19,000	$19,000
12	2	$22,000	$44,000
Total	**20**	**-**	**$231,000**

Proposed Year for Corrective Action to be Complete: Five year program: 2020 – 2024

Total Estimated Cost: $231,000

3.14. Distribution Mainlines

Identified Deficiency: Lack of main replacement plan to replace leaky, aged, undersized (less than 4-inches), and above ground mainlines as part of a capital improvement plan. DDW recommends BBWC to develop a long-term main replacement program.

Proposed Corrective Action: Replace pipelines at a 1.5% rate, or approximately 1,360 ft of pipe per year. An age and failure rate analysis was performed considering the approximate current ages of pipelines in the distribution system and survival curves for existing pipe types. It was assumed that all steel pipelines were installed in the 1940's, all AC pipelines were installed in the 1960's, and all PVC pipelines were installed in the 1990's, and that the oldest pipes with the lowest survival rate are replaced first. The model calculates the average failure rate of all pipelines given their age and the pipe type's survival curve. It assumes that each year a certain percentage

of pipes are replaced, thus reducing the average age and average risk of pipelines across the system. The analysis showed that a replacement rate of 1.5% would ensure that the average age of pipelines in the system does not grow over time, but decreases from about 50 years today to 43 years in 2069 (see Figure 14). Additionally, replacing at a 1.5% rate will prevent the pipeline failure rate from escalating to an unmanageable level. Instead, risk of pipeline failure will steadily decrease over time (see Figure 15).

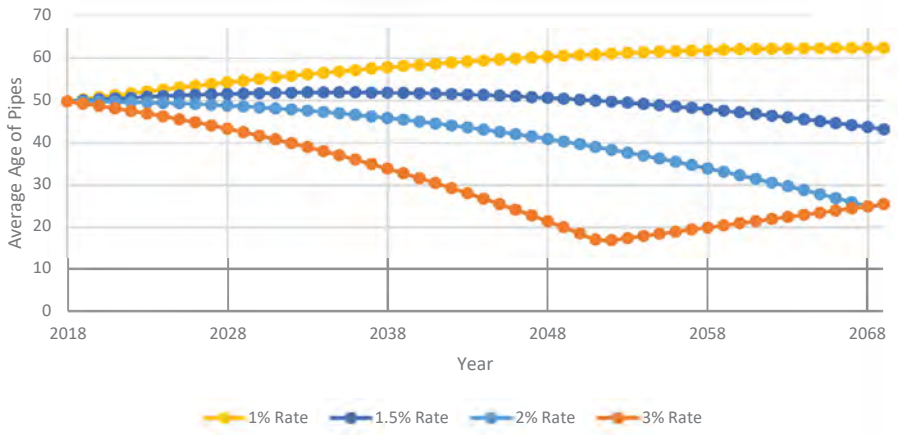

Figure 14: Average age of pipelines under 1-3% replacement programs

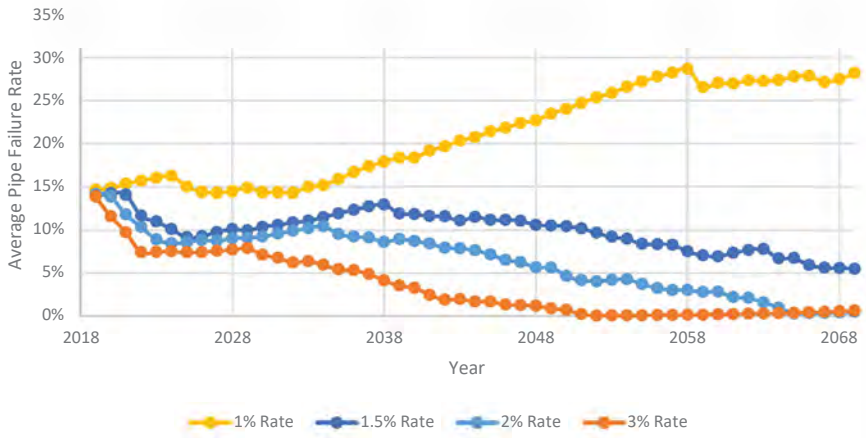

Figure 15: Average failure rate of pipelines under 1-3% replacement programs

Proposed Year for Corrective Action to be Complete: Starting in 2022 and ongoing

Total Estimated Cost: $270,000 / year

3.15. Retire Inactive Wells

Identified Deficiency: BBWC has two inactive well sources listed in DDW's database, Galleon Well 1 and Well 2. DDW recommends BBWC schedule to destroy these inactive groundwater sources.

Proposed Corrective Action: BBWC will work with a certified well driller to retire Well 1 and will clear the site of old pumping equipment and appurtenances, disinfect the well column, fill the void in with fill and sealing material, remove at least five feet below the surface and seal the top, and restore the site back to its original conditions.

According to BBWC's groundwater well consultant, Well 2 has the potential to be restored to provide approximately 35 gpm into the system. BBWC intends to evaluate the costs and benefits of restoring and receiving this well as part of the surface water capacity evaluation study (see Section 4.8).

Proposed Year for Corrective Action to be Complete: 2023

Total Estimated Cost: $26,200

4. Proposed Administrative Corrective Actions

4.1. Jamison Reservoir as a Surface Water Source

Identified Deficiency: BBWC is not permitted to use the Jamison Reservoir, a 3 MG artificial reservoir primarily fed by overflow from surface water sources, as a water source. The reservoir is not permitted raw surface water source and cannot be used as a surface water source.

Proposed Corrective Action: BBWC has stopped using Jamison Reservoir as a surface water source. BBWC will evaluate the need for this source water and apply for the source to be permitted if the use of this source water is deemed necessary to meet system demands.

Proposed Year for Corrective Action to be Complete: Now

Total Estimated Cost: N/A

4.2. Quarterly Tank Inspection

Identified Deficiency: Based on the condition of the storage tanks, BBWC is not adequately inspecting storage tanks. BBWC must begin to inspect all tanks at least quarterly and inspect Rancho Dia tank monthly. BBWC must provide a summary of tank inspections quarterly using the form provided by DDW.

Proposed Corrective Action: BBWC will perform tank inspections, at minimum, on a quarterly basis. BBWC will document the tank inspections by completing the forms provided by DDW in the

2018 *Sanitary Survey Report*. The Rancho Dia (Rosita) tank is scheduled to be replaced as soon as possible with a new 10,000 gallon polyethylene tank.

Proposed Year for Corrective Action to be Complete: Now & ongoing

Total Estimated Cost: N/A

4.3. WTP Facilities Plan

Identified Deficiency: The filtration units are in poor overall condition and must be evaluated by a WesTech® representative or consulting engineer with experience in surface water treatment to determine necessary upgrades.

Proposed Corrective Action: BBWC acknowledges the existing surface water treatment facility has exceeded the extent of its useful life and is in need of significant investment. While BBWC has approached WesTech® vendor to replace the media and improve the Programmable Logic Control (PLC), these systems are more than 26 years old and are in need of a long-term evaluation. For example, the PLC is currently backed up on cassette tapes, a format which is no longer supported by the manufacturer or any representative distributor. Even with the immediate improvements proposed in Section 3.3.1, BBWC intends to contract with a professional engineering consultant with experience in surface water treatment to prepare a master facilities plan for the Jamison Station.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $50,000

4.4. Surface Water Treatment Plant Operations Plan

Identified Deficiency: In accordance with CCR, Title 22, Section 64661, BBWC shall update its surface water treatment plant operations plan.

Proposed Corrective Action: BBWC will consult with a professional engineering consultant to review and revise BBWC Operations Plan after the immediate improvements and new equipment has been installed at the surface water treatment. The new Operations Plan will address all tasks listed in the 2018 *Sanitary Survey*, as well as the following:

- Chlorine residual grab sampling and reporting requirements
- Settled water turbidity grab sampling and reporting requirements
- pH monitoring standard approach using EPA approved methodology
- pH and temperature daily monitoring from water leaving the treated water contact time
- Clarifier and filter loading rates calculation and reporting requirements

This will be completed after WesTech® completes the retrofit and improvements to the existing Microfloc treatment plant.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $25,000

4.5. Distribution System Chlorine Residual

Identified Deficiency: As a surface water system, a detectable residual of 0.2 mg/L must be measured in at least 95 percent of the distribution samples.

Proposed Corrective Action: BBWC has increased the chlorine dosage to ensure a minimum 0.2 mg/L free chlorine residual throughout the distribution system. In addition, BBWC will implement all the disinfection system improvement projects listed above.

Proposed Year for Corrective Action to be Complete: Ongoing

Total Estimated Cost: N/A

4.6. Cross Connection Control Program

Identified Deficiency: BBWC must provide a copy of its current cross connection control operating rules. BBWC must conduct a system wide cross connection control survey, and identify all backflow prevention assemblies in the system and provide a list to DDW.

Proposed Corrective Action: BBWC will consult with a backflow prevention specialist to assist in the preparation of a Cross Connection Control Program, which will include standardize rules, equipment, and testing requirements. This program with then be presented to the California Public Utilities Commission for review and approval. Once the program is approved, the consultant will complete a system wide survey and inventory all backflow prevention assemblies in the system.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: $25,000

4.7. Watershed Sanitary Survey

Identified Deficiency: BBWC must conduct a watershed sanitary survey in accordance with CCR, Title 22, Section 64665

Proposed Corrective Action: BBWC will contract with a professional environmental consultant to prepare an updated Watershed Sanitary Survey in compliance with CCR Title 22 64665. The survey and report will include a physical and hydrogeological description of the watershed, a summary of source water quality monitoring data, a description of activities and sources of contamination, description of any significant changes that have occurred since the last survey which could affect the quality of the source water, a description of watershed control and management practices, an evaluation of the system's ability to meet requirements, and recommendations for any corrective actions.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: $25,000

4.8. Source Capacity

Identified Deficiency: BBWC is unable to meet source capacity requirements according to the method outlines in CCR, Title 22, Section 64554.

Proposed Corrective Action: BBWC will contract with a professional engineering consultant to conduct well tests of its groundwater sources and review its surface water capacity to determine necessary steps to increase its source capacity is in accordance with current regulations.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: $25,000

4.9. Records

Identified Deficiency: BBWC must begin storing records for all preventative maintenance programs including system flushing, valve exercising, and full tank inspections.

Proposed Corrective Action: BBWC has begun a more diligent record keeping program. BBWC maintains a log of all preventative maintenance items performed on the water system including the date, location and nature of the action performed. Additionally, BBWC will start developing their own forms and checklists when performing tests and water samplings based on best practices recommended by industry standards and public entities. All records will be organized, stored in a separated file cabinet, and easily accessible when necessary.

Proposed Year for Corrective Action to be Complete: Now

Total Estimated Cost: N/A

4.10. Operator Staffing

Identified Deficiency: DDW recommends BBWC add additional certified operators to ensure coverage at the treatment plant and to complete preventative maintenance. DDW also recommends BBWC add an additional T3 treatment operator to ensure a certified chief operator is available at all times.

Proposed Corrective Action: The distribution system is classified as a D3 water system, but the treatment plant is classified by DDW as a T2 treatment facility. It is unclear why DDW is recommending an additional T3 treatment operator. BBWC will evaluate contracting for at least one more full time and certified D3, T2 operator to ensure that at least one chief operator is available at all times for the distribution system and treatment plant. BBWC will also look into the financial feasibility of hiring additional staff and contracting out overhead staff duties.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: N/A

4.11. Emergency Response Plan

Identified Deficiency: DDW recommends BBWC create an updated Emergency Response Plan.

Proposed Corrective Action: BBWC will contract with a professional engineering consultant to prepare an emergency response plan in compliance with current regulatory standards.

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: $20,000

Summary of Corrective Actions

Order of Hazard:
A. Critical Health Hazard
B. Serious Health Hazard
C. Potential Health Hazard
D. System or Operational Defect Resulting in Poor Waterworks Practice

Deficiency Identified	Order of Hazard	Date to Address Deficiency	Proposed Corrective Action			
			Description	Schedule	Cost	Memo Section Reference
SOURCES						
Well 4 Chlorination	A	Plan by 3/10/19 Completed by 5/20/19	Temporary chlorination system already installed; long term injection system to be completed by end of 2020	2020	$253,900	3.1
Corvin Creek Intake Sedimentation Tank	C	July 10, 2020	Bypass and retire sedimentation tank	2022	$15,800	3.2
Jamison Intake 1 Sedimentation Tank	C	July 10, 2020	Bypass and retire sedimentation tank	2021	$15,800	3.3.1
Jamison Intake 2 Screen	C	March 10, 2019	Install a secure screen	2021		
Jamison Intake 2 Transmission Line	C	March 10, 2019	Install 700-ft of 6-inch PVC or HPDE raw water main	2021	$95,500	3.3.2
Jamison Intake 1 Transmission Line	C	March 10, 2019				
Jamison Reservoir as a Surface Water Source	N/A	Now	BBWC to cease using Jamison Reservoir as a source of raw water	Now	-	4.1
Jamison Reservoir Cross Connection	A	March 10, 2019	Cut & Cap pipes to eliminate cross connection	2019	$22,200	3.3.3
BOOSTER STATIONS						
Galleon Heights Booster Station Housing	C	Sept 10, 2019	Replace wooden building	2021	$125,200	3.7
Galleon Heights Booster Pump Plan	D	Sept 10, 2019	Pumps will be replaced with more appropriately sized pumps			
Tradewinds Booster Station Waterlogged Pressure Tanks	C	Dec 31, 2019	Replace the bladder in the existing tanks and return to service			
Tradewinds booster Station Piping and Valving Corrosion	D	Dec 31, 2019	Clean existing piping and recoat	2021	$136,400	3.8.2
Tradewinds Booster Station Generator	C	March 10, 2019	Generator has been repaired and is back in service			
STORAGE						
Galleon Tank Vent Screen	C	March 10, 2019	# 24 Mesh vent screen already installed			
Galleon Tank Roof Access Hatch	D	March 10, 2019	Hatch gasket already installed	2021	$61,400	3.8.1
Galleon Tank Overflow	D	March 10, 2019	Include a DOSA assembly with storm drain and drain away from tank			
Robin Hood Bolted Steel Tank Roof Hatch Seal	D	March 10, 2019				
Robin Hood Bolted Steel Tank Vent Screen	D	March 10, 2019	Retire the existing Horizontal Robin Hood tank and replace with a 6-inch regulator and 2-inch bypass regulator	2019/2023	$130,800	3.6
Robin Hood Bolted Steel Tank Drain	C	During Next Rehab				
Robin Hood Bolted Steel Tank Removal/Replacement	A	March 20, 2019				
Hill House Tank Site	N/A	May 10, 2019	Vegetation cleared	Completed	-	3.4
Hill House Tank Cross Connection Verification	D	April 10, 2019	Verified that no cross connection exists	Completed	-	3.4
China Grade Tank Connection Verification	D	Written verification by April 10, 2019	Verified that no cross connection exists	Completed	-	3.9

Deficiency Identified	Order of Hazard	Date to Address Deficiency	Proposed Corrective Action			
			Description	Schedule	Cost	Memo Section Reference
China Grade Tank Roof Lid Lock	D	March 10, 2019	Roof lid lock installed	Completed	-	3.9
Rancho Dia Tank Rehabilitation/Replacement Plan	A	Rehabilitation/ Replacement Plan by May 10, 2019	Replace Rancho Dia Tank with 10,000 gallon polyethylene tank with seismic anchorage	2019	$74,300	3.10
Rancho Dia Tank Interim Operation Requirements	N/A	Immediately				
Rancho Dia Tank Vent Screen	A	February 10, 2019				
Rancho Dia Tank Site	D	May 10, 2019				
Rancho Dia Tank Leaks	C	March 10, 2019				
Rancho Dia Tank Cleaning	B	June 10, 2019				
Oberst Tank Replacement Plan	A	May 10, 2019	Replace Oberst Tank with 10,000 gallon polyethylene tank with seismic anchorage	2019	$64,600	3.11
Oberst Tank Roof Vent Screen	D	January 30, 2019				
Bloom Grade Tank Ownership Status and Fence Removal	B	Written verification of ownership status by April 10, 2019	BBWC working with property owner to verify	2019	-	3.12
Bloom Grade Tank Cross Connection Verification	C	Written verification by April 10, 2019	Confirmed no cross connection present	Completed	-	3.12
Bloom Grade Tank Drain	C	September 10, 2019	Sample tap and drain to be installed with other site improvements	2021	$23,500	3.12
Bloom Grade Tank Sample Tap	D	May 10, 2019				3.12
Storage Tank Inspections	C	Now	BBWC will increase its tank inspection efforts to meet DDW requirements	Ongoing	-	4.2
SURFACE WATER TREATMENT						
Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement	A	Plan by 4/10/19 Completed by 2/10/20	BBWC will consult with a professional engineering firm to prepare a Water Treatment Facilities Plan and provide long-term recommendations	2020	$50,000	4.3
Updated Surface Water Treatment Plant Operations Plan	B	6/10/19	BBWC will consult with a professional engineering consultant to updated SOPs and Operations Plan after improvements to existing Microfloc treatment plant are completed by WesTech® (see Section 4.3)	2021	$25,000	4.4
Settled Water Turbidity	N/A	Now				
pH Monitoring	C	4/10/19				
Daily pH and Temperature Monitoring	C	Immediately				
Chlorine Residual Grab Sampling and Reporting	N/A	Now				
Clarifier and Filter Loading Rates	N/A	Feb 2019				
Jamison WTP Filter Unit Clarification Media Screen	A	3/10/19	Repair filters, replace PLCs, install EPA approved total chlorine analyzer, clean building and repair holes, replace existing turbidimeter	2020	$236,300	3.5
Online Chlorine Residual Analyzer	A	3/10/19				
Jamison WTP Building	B	9/10/19				
Jamison WTP Cleaning	A	2/10/19 & Continuously				
Jamison WTP Turbidimeter	B	11/10/19				
Distribution System Chlorine Residual	A	Immediately	Increased system chlorine residual	Completed	-	4.5

Deficiency Identified	Order of Hazard	Date to Address Deficiency	Proposed Corrective Action			
			Description	Schedule	Cost	Memo Section Reference
Filter Effluent Line Cross Connection Evaluation	D	7/10/19	BBWC confirmed that no cross connection exists (JIM TO CONFIRM)	Completed	-	-
Backwash Tank Cross Connection(s)	C	4/10/19	BBWC confirmed that no cross connection exists (JIM TO CONFIRM)	Completed	-	-
October 9, 2018 Chlorine Residual	N/A	2/15/19	Completed and mailed to DDW on XX/XX/XX	Completed	-	-
Jamison WTP Cats	B	2/20/19	BBWC to develop a comprehensive long-term Vector Control Plan		See Section 3.5	
Jamison WTP Chemical Storage Tank Water Line	C	5/10/19	BBWC to install new chemical storage platform and containment	2020	$149,000	3.5.1
Jamison WTP Chemical Storage Tanks and Storage	B	5/10/19				
Cross Connection Control Operating Rules	A	6/10/19	BBWC to prepare new Rules and Standards for Cross Connection in the service area for approval by CPUC; after which BBWC will complete a system wide survey and inventory backflow equipment	2019	$25,000	4.6
Cross Connection Control Survey	A	10/10/19				
Backflow Prevention Assembly Inventory	A	6/10/19				
OTHER						
2017 Consumer Confidence Report Certification	C	2/15/2019	BBWC provided to DDW on XX/XX/XX	2019	-	-
Watershed Sanitary Survey	C	12/31/2019	BBWC to engage professional engineering consultant to prepare	2021	$25,000	4.7
Source Capacity	B	12/31/2019	BBWC to engage professional engineering consultant to prepare	2020	$25,000	4.8
Records	D	Now	BBWC working to improve recordkeeping procedures	Ongoing	-	4.9
Overdue 2018 Source Monitoring	C	1/31/2019	BBWC provided to DDW on XX/XX/XX	2019	-	-
LIST OF RECOMMENDATIONS						
Photos	-	-	BBWC to prepare and provide to DDW by end of 2019	2019	-	-
Robin Hood Tank Foundation	-	-	BBWC to engage to professional engineer to evaluate as budget allows	2023	$10,000	-
Hill House Tank Foundation	-	-	Install seismic restraint system	2022	$34,200	3.4
Hill House Tank Fence	-	-	Install ~170 ft of fence, a 12-ft swing gate, and ~400 sf gravel road			
China Grade Tank Fence	-	-	Install ~145 ft of fence, a 12-ft swing gate, and ~1,000 sf gravel road	2022	$24,200	3.9
Bloom Grade Tank Fence	-	-	Install ~170 ft of fence, a 12-ft swing gate, and ~8,000 sf gravel road	2021	$48,300	3.12
Jamison WTP IFE Turbidimeter	-	-	Install a turbidimeter on the effluent end of each filter unit		See Section 3.5	
Jamison WTP Backup Turbidimeter	-	-	Purchase one backup turbidimeter		See Section 3.5	
Jamison WTP Generator	-	-	BBWC to evaluate as part of long term facilities plan		See Section 3.5.2	
Jamison WTP Site Security	-	-	Install 950 ft of fence, a 20-ft double swing gate, and a 20-ft barrier gate	2022	$119,300	3.5.2
Inactive Sources	-	-	BBWC to retire Well # 1 and evaluate Well # 2 for restoration	2023	$26,200	3.15
Isolation Valves	-	-	Install 20 line valves	2020 - 2024	$231,000	3.13
Operator Staffing	-	-	BBWC evaluating hiring/contracting additional staff	2020	-	4.10
Emergency Response Plan	-	-	BBWC to engage professional consultant to prepare	2022	$20,000	4.11
Distribution Main Replacement Plan	-	-	BBWC replacing mains as part of a long term asset management program	Ongoing	TBD	3.14
Cross Connection Specialist	-	-	Will contract with a cross connection specialist		See Section 4.6	

Commented [WJ6]: If this is complete, make a note stating that it is complete and what work was performed

Commented [WJ7]: If this is complete, make a note stating that it is complete and what work was performed

Commented [WJ8]: Add date

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Corrective Action Projected Costs and Schedule of Improvements

The following table is a summary of the costs and schedule for the proposed corrective actions.

Project	2019	2020	2021	2022	2023	2024	TOTAL
Well 4 Chlorination		$253,900					**$253,900**
Corvin Creek Intake Sedimentation Tank			$15,800				**$15,800**
Jamison Intake 1 Sedimentation Tank			$15,800				**$15,800**
Jamison Intake 2 Screen							
Jamison Intake 2 Transmission Line			$95,500				**$95,500**
Jamison Intake 1 Transmission Line							
Jamison Reservoir Cross Connection	$22,200						**$22,200**
Galleon Heights Booster Station Housing			$125,200				**$125,200**
Galleon Heights Booster Pump Plan							
Tradewinds Booster Station Waterlogged Pressure Tanks							
Tradewinds Booster Station Piping and Valving Corrosion			$136,400				**$136,400**
Tradewinds Booster Station Generator							
Galleon Tank Power and Level Transducer			$61,400				**$61,400**
Galleon Tank Overflow							
Robin Hood Bolted Steel Tank Roof Hatch Seal							
Robin Hood Bolted Steel Tank Vent Screen	$19,500				$111,300		**$130,800**
Robin Hood Bolted Steel Tank Drain							
Robin Hood Bolted Steel Tank Removal/Replacement							
Rancho Dia Tank Rehabilitation/Replacement Plan							
Rancho Dia Tank Interim Operation Requirements							
Rancho Dia Tank Vent Screen	$74,300						**$74,300**
Rancho Dia Tank Site							
Rancho Dia Tank Leaks							
Rancho Dia Tank Cleaning							
Oberst Tank Replacement Plan	$64,600						**$64,600**
Oberst Tank Roof Vent Screen							
Bloom Grade Tank Drain and Sample Tap			$23,500				**$23,500**

Project	2019	2020	2021	2022	2023	2024	TOTAL
Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement		$50,000					**$50,000**
Updated Surface Water Treatment Plant Operations Plan			$25,000				**$25,000**
Jamison WTP Building Repairs, Filter Unit Repairs, Chlorine Analyzer, Turbidimeters		$236,300					**$236,300**
Jamison WTP Chemical Storage Tanks and Storage		$149,000					**$149,000**
Cross Connection Control Operating Rules							
Cross Connection Control Survey	$25,000						**$25,000**
Backflow Prevention Assembly Inventory							
Watershed Sanitary Survey			$25,000				**$25,000**
Source Capacity		$25,000					**$25,000**
Robin Hood Tank Foundation					$10,000		**$10,000**
Hill House Tank Foundation							
Hill House Tank Fence				$34,200			**$34,200**
China Grade Tank Fence				$24,200			**$24,200**
Bloom Grade Tank Fence			$48,300				**$48,300**
Jamison Station Fence				$119,300			**$119,300**
Inactive Sources					$26,200		**$26,200**
Isolation Valves		$46,200	$46,200	$46,200	$46,200	$46,200	**$231,000**
Distribution Main Replacement Plan				$270,000	$270,000	$270,000	**$810,000**
Emergency Response Plan				$20,000			**$20,000**
Estimated Capital Expenditures (Present Value)	**$ 205,600**	**$760,400**	**$ 618,100**	**$ 513,900**	**$463,700**	**$316,200**	**$2,877,900**

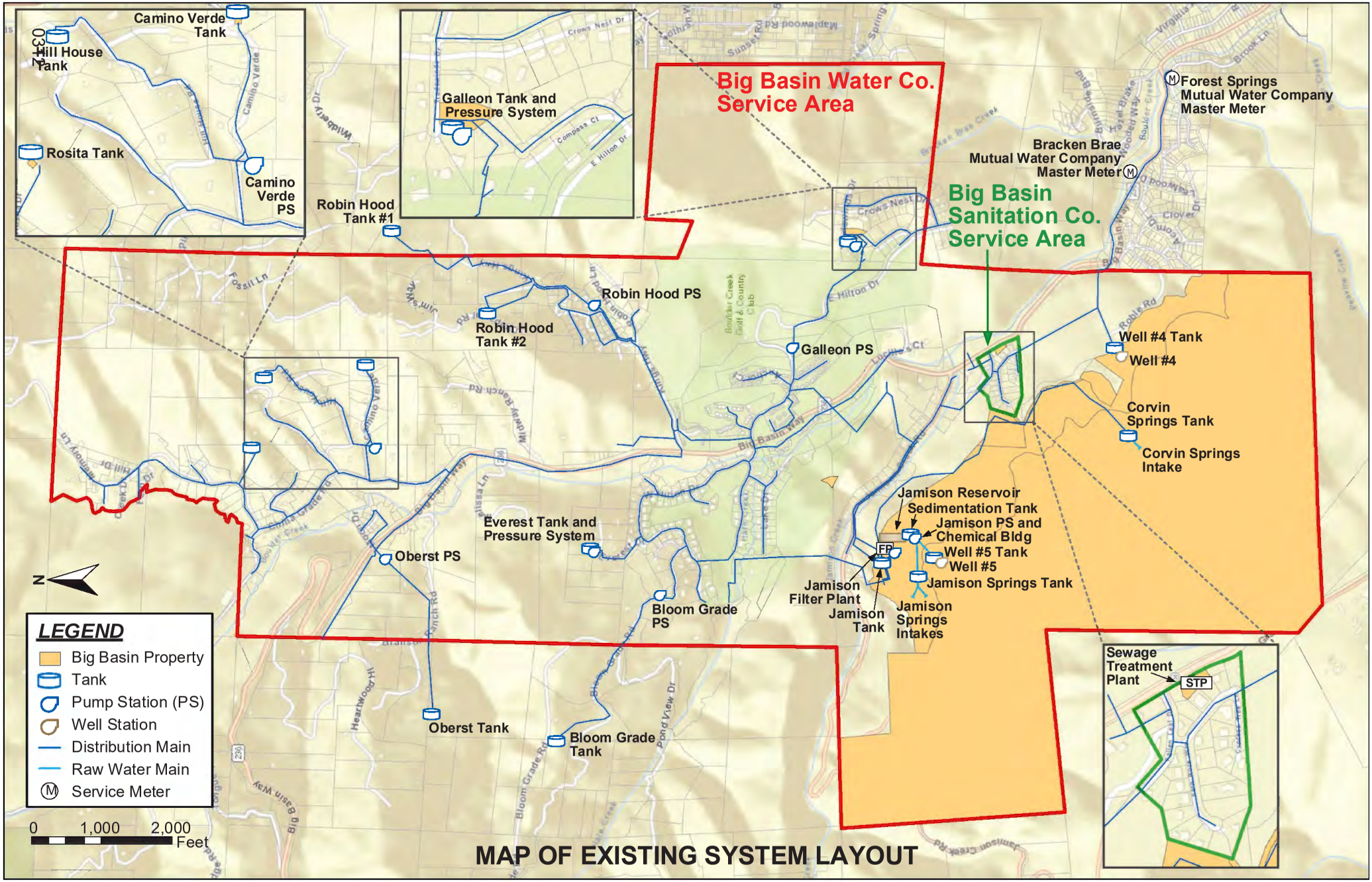
Items for Jim to address are highlighted in the DDW response document.

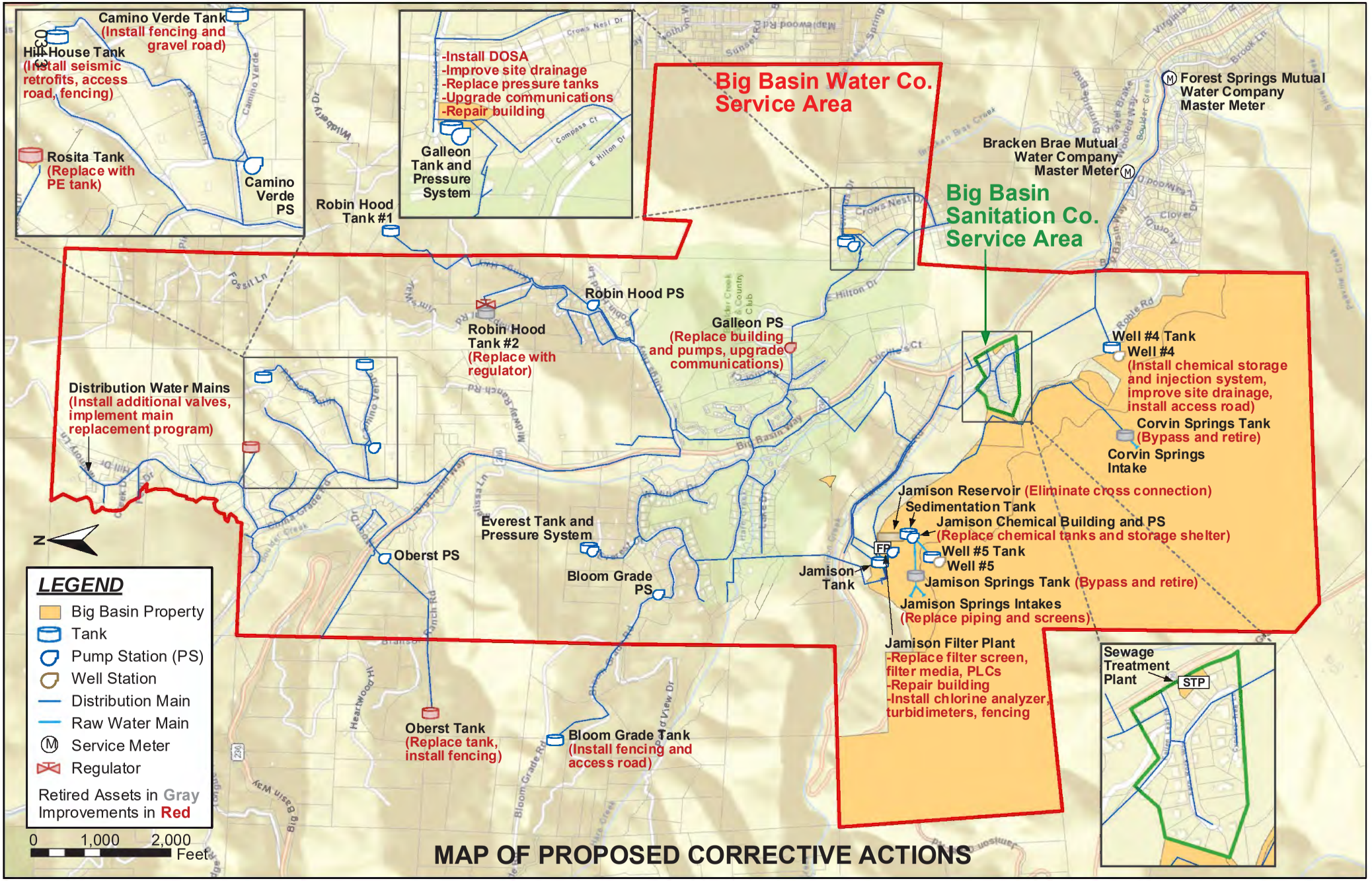
Photos for Jim to insert into the document:

- Section 3.4, Figure 3 – Photo showing vegetation cleared around Hill House Tank
- Section 3.8.1, Figure 6 – Photo showing hatch gasket seal on Galleon Heights Tank
- Section 3.8.1, Figure 7 – Photo showing #24 mesh vent screen on Galleon Heights Tank
- Section 3.8.1, Figure 8 – Photo showing greater clearance between pipe and ground (cut and screened overflow pipe)
- Section 3.12, Figure 13 – Photo showing that there is no cross connection between Bloom Grade Tank and neighbor's tank

In Table on Page 24, for Jim to confirm and provide evidence to DDW:

- Confirm and provide evidence that there is no cross connection between the filtered water line and backwash line
- Confirm and provide evidence that there is no cross connection between backwash water storage tank and Jamison Reservoir
- Confirm that the October 9, 2018 Chlorine Residual report was sent to DDW and update table in response document
- Confirm that the 2017 Consumer Confidence Report Certification was sent to DDW
- Confirm that the overdue 2018 Source Monitoring report was sent to DDW


Big Basin Water Co.
Service Area
Big Basin
Sanitation Co.
Service Area
Camino Verde
Tank
Hill House
Tank
Rosita Tank
Camino
Verde
PS
Galleon Tank and
Pressure System
Robin Hood
Tank #1
Robin Hood PS
Robin Hood
Tank #2
Galleon PS
Forest Springs
Mutual Water Company
Master Meter
Bracken Brae
Mutual Water Company
Master Meter
Well #4 Tank
Well #4
Corvin
Springs Tank
Corvin Springs
Intake
Jamison Reservoir
Sedimentation Tank
Jamison PS and
Chemical Bldg
Well #5 Tank
Well #5
Jamison Springs Tank
Jamison
Filter Plant
Jamison
Tank
Jamison
Springs
Intakes
Everest Tank and
Pressure System
Oberst PS
Bloom Grade
PS
Oberst Tank
Bloom Grade
Tank
Sewage
Treatment
Plant
STP
N
LEGEND
Big Basin Property
Tank
Pump Station (PS)
Well Station
Distribution Main
Raw Water Main
Service Meter
0
1,000
2,000
Feet
MAP OF EXISTING SYSTEM LAYOUT


Camino Verde Tank
(Install fencing and gravel road)
Hill House Tank
(Install seismic retrofits, access road, fencing)
Rosita Tank
(Replace with PE tank)
Camino Verde PS
-Install DOSA
-Improve site drainage
-Replace pressure tanks
-Upgrade communications
-Repair building
Galleon Tank and Pressure System
Robin Hood Tank #1
Big Basin Water Co. Service Area
Big Basin Sanitation Co. Service Area
Forest Springs Mutual Water Company Master Meter
Bracken Brae Mutual Water Company Master Meter
Robin Hood PS
Robin Hood Tank #2
(Replace with regulator)
Galleon PS
(Replace building and pumps, upgrade communications)
Distribution Water Mains
(Install additional valves, implement main replacement program)
Well #4 Tank
Well #4
(Install chemical storage and injection system, improve site drainage, install access road)
Corvin Springs Tank
(Bypass and retire)
Corvin Springs Intake
Jamison Reservoir (Eliminate cross connection)
Sedimentation Tank
Jamison Chemical Building and PS
(Replace chemical tanks and storage shelter)
Well #5 Tank
Well #5
Jamison Springs Tank (Bypass and retire)
Jamison Springs Intakes
(Replace piping and screens)
Jamison Tank
Jamison Filter Plant
-Replace filter screen, filter media, PLCs
-Repair building
-Install chlorine analyzer, turbidimeters, fencing
Everest Tank and Pressure System
Oberst PS
Bloom Grade PS
Oberst Tank
(Replace tank, install fencing)
Bloom Grade Tank
(Install fencing and access road)
Sewage Treatment Plant
STP
LEGEND
Big Basin Property
Tank
Pump Station (PS)
Well Station
Distribution Main
Raw Water Main
Service Meter
Regulator
Retired Assets in Gray
Improvements in Red
0 1,000 2,000 Feet
MAP OF PROPOSED CORRECTIVE ACTIONS

APPENDIX 2: MONTHLY PROGRESS REPORT

Water System: **Big Basin Water Company**	Water System No: **4410001**
Compliance Order No.	Violation:
Calendar Quarter:	Date:

This form should be prepared and signed by Big Basin Water Company personnel with appropriate authority to implement the directives of the Compliance Order and the Corrective Action Plan. Please attach additional sheets as necessary. The quarterly progress report must be submitted by the 10th day of each subsequent quarter, to the Division of Drinking Water, Monterey District Office to the following email address: dwpdist05@waterboards.ca.gov titled appropriately.

Summary of Compliance Plan:

Tasks completed in the reporting quarter:

Tasks remaining to complete:

Anticipated compliance date:	

Printed Name **Signature**

Title **Date**

APPENDIX 3 - Notification of Receipt

Compliance Order Number: 02_05_21R_001
Name of Water System: Big Basin Water Company

System Number: 4410001

Certification

I certify that I am an authorized representative of the Big Basin Water Company and that Compliance Order No. 02_05_21R_001 was received on _____.

Further I certify that the Order has been reviewed by the appropriate management staff of the Big Basin Water Company and it is clearly understood that Compliance Order No. 02_05_21R_001 contains legally enforceable directives with specific due dates.

_____ _____

Signature of Water System Representative Date

**THIS FORM MUST BE COMPLETED AND RETURNED TO THE STATE WATER BOARD,
DIVISION OF DRINKING WATER, NO LATER THAN April 27, 2021**

Disclosure: Be advised that the California Health and Safety Code, Sections 116725 and 116730 state that any person who knowingly makes any false statement on any report or document submitted for the purpose of compliance with the Safe Drinking Water Act may be liable for, respectively, a civil penalty not to exceed five thousand dollars ($5,000) for each separate violation or, for continuing violations, for each day that violation continues, or be punished by a fine of not more than $25,000 for each day of violation, or by imprisonment in the county jail not to exceed one year, or by both the fine and imprisonment.

APPENDIX 2 - COPY OF CITATION NO. 02_05_21C_021

State Water Resources Control Board

Division of Drinking Water

August 19, 2021

System No. 4410001

Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
bbwater197@yahoo.com

CITATION NO. 02_05_21C_021
FAILURE TO PROVIDE A RELIABLE SUPPLY OF POTABLE WATER

Enclosed is Citation No. 02_05_21C_020 (hereinafter "Citation"), issued to the Big Basin Water Company (hereinafter "Big Basin WC") public water system. Please note that there are legally enforceable deadlines associated with this Citation.

Big Basin WC will be billed at the State Water Resources Control Board's (hereinafter "State Water Board") hourly rate for the time spent on issuing this Citation. California Health and Safety Code (hereinafter "CHSC") Section 116577 provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including preparing, issuing and monitoring compliance with a citation. At this time, the State Water Board has spent approximately three hours on enforcement activities associated with this violation.

Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on Big Basin WC for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the State Water Board under Article 8 (commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter

4), may file a petition with the State Water Board for reconsideration of the citation, order or decision.

Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the State Water Board. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.

Information regarding filing petitions may be found at:

http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml

If you have any questions regarding this matter, please contact the Division of Drinking Water at dwpdist05@waterboards.ca.gov or (831) 655-6939.

Sincerely,

Jonathan Weininger

Digitally signed by Jonathan Weininger
Date: 2021.08.18 10:12:09 -07'00'

Water Boards

Jonathan Weininger, PE
District Engineer, Monterey District
Division of Drinking Water

Enclosures

Certified Mail No. 7018 3090 0001 0464 6731

cc: Santa Cruz County Environmental Health Services
Marilyn Underwood, Marilyn.Underwood@santacruzcounty.us
Nathan Salazar, Nathan.Salazar@santacruzcounty.us
Sierra Ryan, Sierra.Ryan@santacruzcounty.us

California Public Utilities Commission (CPUC) Water Division
Moises Chavez, moises.chavez@cpuc.ca.gov
Wilson Tsai, wilson.tsai@cpuc.ca.gov

Citation No. 02_05_21C_021

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Name of Public Water System: Big Basin Water Company

Water System No: 4410001

Attention: Jim Moore, Manager

PO Box 197

Boulder Creek, CA 95006

Issued: August 19, 2021

CITATION FOR NONCOMPLIANCE

CALIFORNIA HEALTH AND SAFETY CODE, SECTION 116555 (a)(3), AND CCR, TITLE 22, SECTION 64602

FAILURE TO PROVIDE A RELIABLE SUPPLY OF POTABLE WATER

The California Health and Safety Code (hereinafter "CHSC"), Section 116650 authorizes the State Water Resources Control Board (hereinafter "State Water Board"), to issue a citation to a public water system when the State Water Board determines that the public water system has violated or is violating the California Safe Drinking Water Act (hereinafter "California SDWA"), (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit, or order issued or adopted thereunder.

The State Water Board, acting by and through its Division of Drinking Water (hereinafter "Division"), and the Deputy Director for the Division, hereby issues Citation No. 02_05_21C_021 (hereinafter "Citation"), pursuant to Section 116650 of the CHSC to the Big Basin Water Company (hereinafter "Big Basin WC"), for violation of CHSC, Section 116555 and CCR, Title 22, Section 64602.

STATEMENT OF FACTS

Big Basin WC is classified as a community water system and serves a population of 1,120 through 482 connections (information from the 2020 Electronic Annual Report to the Division of Drinking Water (EAR)). The population and service connections listed in the 2020 EAR reflect reduced numbers following the August 2020 CZU Lightning Complex Fire, which destroyed or damaged a portion of Big Basin WC's customer connections. Big Basin WC operates under Domestic Water Supply Permit No. 02-05-44-94P-001, issued by the State Water Board on February 11, 1994.

CHSC, Section 116555 (a)(3) requires any person who owns a public water system to ensure that the system provides a reliable and adequate supply of pure, wholesome, healthful, and potable water.

CCR, Title 22, Section 64602 states that each distribution system must be operated in a manner to assure that a minimum operating pressure in the water main at the user service line connection throughout the distribution system is not less than 20 pounds per square inch at all times.

On Sunday, June 27, 2021, three Big Basin WC customers notified the State Water Board of a water outage impacting the Galleon Heights pressure zone. Based on conversations with Big Basin WC customers, the water outage lasted up to seven hours, and service was restored by 8 PM. Each customer mentioned they tried to reach Big Basin WC to

report the outage, but they were not provided a response. By email dated June 27, 2021, and by phone on June 28, 2021, the State Water Board instructed Big Basin WC to issue a precautionary boil water notice to the Galleon Heights pressure zone.

On June 28, 2021, Big Basin WC issued a Boil Water Notice to the Galleon Heights customers following the water outage. Big Basin WC later stated the reason for the pressure loss was a faulty 100-amp breaker that caused the Galleon Heights booster station, which serves the Galleon Heights pressure zone, to shut down. Big Basin WC did not report the water outage to the State Water Board until the State Water Board initiated contact with Big Basin WC.

DETERMINATION

The State Water Board has determined that Big Basin WC has failed to comply CHSC, Section 116555 (a)(3) and CCR, Title 22, Section 64602 by not providing a reliable supply of potable water to the Galleon Heights pressure zones.

PENALTY PURSUANT TO HEALTH AND SAFETY CODE SECTION 116650

The State Water Board hereby assesses upon Big Basin WC an administrative penalty in the amount of **$1,000**. Big Basin WC is directed to pay this penalty in accordance with the requirements set forth in Directive 2 of this Citation.

DIRECTIVES

Big Basin WC is hereby directed to take the following actions:

1. By **September 16, 2021**, submit to the State Water Board a corrective action plan that includes a schedule for replacing the pumps and appurtenances at the Galleon Heights booster station and installing reliability features, such as alarms and backup power capabilities, with a final completion date no later than

November 30, 2021. The plan must ensure that the Galleon Heights pressure zone distribution system pressure can be reliably maintained without outages.

2. Submit to the State Water Board by **September 16, 2021,** a check for the administrative penalty of **$1,000** imposed by this Citation and a copy of the form, which is attached as Appendix 1, hereto entitled "Notice of Administrative Penalty." The Citation number must be written on the check. The check must be made payable to the **State Water Resources Control Board** and submitted to:

SWRCB Accounting Office
ATTN: Drinking Water Program Fees
P.O. Box 1888
Sacramento, CA 95812-1888

All submittals required by this Citation, unless otherwise specified in the directives above, must be electronically submitted to the State Water Board at the following address. The subject line for all electronic submittals corresponding to this Citation must include the following information: Water System name and number, citation number and title of the document being submitted.

Jonathan Weininger, District Engineer
Dwpdist05@waterboards.ca.gov

The State Water Board reserves the right to make modifications to this Citation as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Citation and shall be effective upon issuance. Nothing in this Citation relieves Big Basin WC of its obligation to meet the requirements of the California SDWA (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit or order issued or adopted thereunder.

PARTIES BOUND

This Citation shall apply to and be binding upon Big Basin WC, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

SEVERABILITY

The directives of this Citation are severable, and Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Citation.

Stefan Cajina

Digitally signed by Stefan Cajina
Date: 2021.08.18 09:05:50 -07'00'

Water Boards

August 19, 2021

Stefan Cajina, P.E., Chief
North Coastal Section
Division of Drinking Water
State Water Resources Control Board

Date

Appendices (1):

1. Notice of Administrative Penalty Form

Certified Mail No. 7018 3090 0001 0464 6731

APPENDIX 1 - NOTICE OF ADMINISTRATIVE PENALTY FORM

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Notice of Administrative Penalty

System Name: Big Basin Water Company

System Number: 4410001

Background

On August 18, 2021, the Division of Drinking Water issued Citation 02_05_21C_021 to the Big Basin Water Company. The Citation carried a civil penalty in the amount of **$1,000**.

Method of Payment

A check for the total amount of the civil penalty and a copy of this form must be submitted to the State Water Board by **September 10, 2021**. The Citation number must be written on the check, the check made payable to the **State Water Resources Control Board**, and submitted to:

SWRCB Accounting Office
ATTN: Drinking Water Program Fees
P.O. Box 1888
Sacramento, CA 95812-1888

Attach check below:

APPENDIX 3 - NOTICE OF ADMINISTRATIVE PENALTY

APPENDIX 3 - NOTICE OF ADMINISTRATIVE PENALTY FORM

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Notice of Administrative Penalty

System Name: Big Basin Water Company

System Number: 4410001

Background

On October 28, 2021, the Division of Drinking Water issued Citation 02_05_21C_030 to the Big Basin Water Company. The Citation carried a civil penalty in the amount of **$21,000**.

Method of Payment

A check for the total amount of the civil penalty and a copy of this form must be submitted to the State Water Board by **February 10, 2022**. The Citation number must be written on the check, the check made payable to the **State Water Resources Control Board**, and submitted to:

SWRCB Accounting Office
ATTN: Drinking Water Program Fees
P.O. Box 1888
Sacramento, CA 95812-1888

Attach check below:

EXHIBIT N

Big Basin Water Company Inc

P.O. Box 197

Boulder Creek, CA 95006

831-818-4477

October 26,2021

Rick,

We would like to make a request for SLVWD to explore consolation with Big Basin Water Co. INC.

We will need sometime to gather the other documents you need. We lost all those papers in the fire. I will have to write each agency to get everything you need. I will start on that tomorrow.

Thomas and Shirley Moore

Big Basin Water Co.

EXHIBIT O

County of Santa Cruz

BOARD OF SUPERVISORS
701 OCEAN STREET, SUITE 500, SANTA CRUZ, CA 95060-4069
(831) 454-2200 • FAX: (831) 454-3262 TDD/TTY - Call 711

MANU KOENIG	ZACH FRIEND	RYAN COONERTY	GREG CAPUT	BRUCE MCPHERSON
FIRST DISTRICT	SECOND DISTRICT	THIRD DISTRICT	FOURTH DISTRICT	FIFTH DISTRICT

April 19, 2021

Jim Moore
Big Basin Water District
P.O. Box 197
Boulder Creek, CA 95003

Re: STATE WATER RESOURCES CONTROL BOARD COMPLIANCE ORDER NO. 02_05_21R_001_441001

Dear Mr. Moore:

On behalf of the nearly 1,700 mutual constituents who reside within our respective districts and inside the service area of the Big Basin Water District (BBWD), we are writing you out of grave concern regarding the immediate threat to public health and well-being represented by the current condition of BBWD's water system.

As outlined in the Compliance Order issued to BBWD on April 9 by the State Water Resources Control Board (Board), BBWD, also known as Big Basin Water Company, faces a host of legally enforceable deadlines between now and September 2021 to meet state regulations, which will require the establishment of a temporary water supply, development of a permanent secondary source of supply, and the resolution of outstanding deficiencies stemming from a sanitary service report conducted by the Board in 2018.

We fully understand the devastating impacts the CZU Lightning Complex Fire of August 2020 had on the BBWD water system, as detailed in the Board's Compliance Order, including the loss of the Jamison Surface Water Treatment Plant that left BBWD with only a single well as its supply source, which fails to meet state requirements for source capacity. We believe it will be extremely difficult for BBWD to meet the Compliance Order deadlines to develop a water contingency plan for a temporary water supply (May 10, 2021) and then submit a permit application for an additional source (September 10, 2021).

Even before the CZU fire, we understood BBWD to be in a state of disrepair, including, as noted in the Compliance Order, the lack of a power outage response plan (overdue since March 2, 2020), the need for which became evident when BBWD was unable to provide water to customers for two days during a PG&E Public Safety Power Shutoff event in October 2019.

In summary, the Compliance Order notes Big Basin Water Company "*has a documented history of failing to administer preventative maintenance, emergency preparedness, and customer complaint programs. This lack of preparation and inadequate customer communication has contributed to Big Basin WC failing to reliably supply its customers with potable water during emergency events, including the 2019 PG&E Power Safety Shutoffs and the August 2020 CZU Lightning Complex Fire. These deficiencies constitute an ongoing threat of failure to provide a reliable and adequate supply of pure, wholesome, healthful, and potable water as required by CHSC, Section 116555 (a)(3).*"

It is our understanding, stemming from conversations you have had with Supervisor Bruce McPherson and other community members dating back more than six months, that you believed an offer to buy your company was imminent. However, no such purchase has come to fruition, and without the ability for you to rectify the above-mentioned deficiencies by the state's deadlines, we are deeply concerned about BBWD's ability within the next several months to adequately provide water to meet the needs of existing customers.

Additionally, as property owners whose homes were destroyed by the fire prepare to rebuild their homes, we are concerned BBWD will not be equipped to provide reliable and safe water – therefore risking the ability of fire victims to gain the needed approvals to rebuild. Furthermore, we are concerned about the amount of water that would need to be available for fire suppression activities.

Considering all of this, as the county and state elected officials representing your company and its customers, we implore BBWD to immediately and earnestly engage in discussions with San Lorenzo Valley Water District (District) regarding terms of a possible merger. We believe an annexation of the BBWD service area by the District offers a viable way to ensure that BBWD customers receive adequate and reliable service in the immediate and long-term future.

We understand that on several occasions recently you have been urged by District Director Rick Rogers to begin such talks but that you have not agreed to do so. With legally enforceable deadlines associated with the Compliance Order, as well as fire rebuilding and summer demand on the immediate horizon, we

sincerely believe the time is now to explore such a merger. We stand ready and willing, as does the Local Agency Formation Commission staff, to help you better understand and follow the process involved in pursuing a merger.

We thank you for your many years of service to your customers and hope that you will see this letter as a respectful offer of assistance, as it is sincerely intended.

Sincerely,

Assemblymember Mark Stone
California Assembly, 29th District

Supervisor Bruce McPherson
Santa Cruz County, 5th District

Senator John Laird
California Senate, 17th District

cc: Senator John Laird
Assemblymember Mark Stone
Santa Cruz County Administrative Officer Carlos Palacios
California State Water Resources Control Board
Santa Cruz County Local Agency Formation Commission

EXHIBIT P

June 15, 2022

Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
bbwater197@yahoo.com

Dear Jim Moore:

2022 SANITARY SURVEY
BIG BASIN WATER COMPANY (SYSTEM NO. 4410001)

On February 10, 2022, Damian Moore and you accompanied Rick Rogers, James Furtado and Nate Gillespie of San Lorenzo Valley Water District and staff from the State Water Resources Control Board – Division of Drinking Water (Division) on a sanitary survey of the Big Basin Water Company's water system. A completed Sanitary Survey Report and deficiency list is enclosed documenting the findings of the inspection.

The water system is in deficient overall condition and has many important deficiencies that must be addressed, many of which remain uncorrected since previous sanitary surveys. The attached sanitary survey includes a summary of deficiencies found during the sanitary survey and documentation review. A written response to the attached sanitary survey report and deficiency list is requested by ***July 15, 2022,*** along with a plan to correct the deficiencies listed. Please include the deficiency list along with the date of correction or planned date in the response to this letter.

The Division greatly appreciates Big Basin Water Company's assistance during and after the inspection. If you have any questions or concerns, please contact the Division at DWPDIST05@waterboards.ca.gov or (831) 655-6939.

Sincerely,

Jonathan Weininger
Digitally signed by Jonathan Weininger
Date: 2022.06.15 09:14:05 -07'00'
Water Boards

Jonathan Weininger, P.E.
District Engineer, Monterey District
Division of Drinking Water

Enclosures: 2022 Sanitary Survey Report and attachments

cc: Santa Cruz County Environmental Health Services
Marilyn Underwood, Marilyn.Underwood@santacruzcounty.us
Nathan Salazar, Nathan.Salazar@santacruzcounty.us
Sierra Ryan, Sierra.Ryan@santacruzcounty.us

California Public Utilities Commission (CPUC) Water Division
Water.Division@cpuc.ca.gov
Moises Chavez, moises.chavez@cpuc.ca.gov
Wilson Tsai, wilson.tsai@cpuc.ca.gov

Rick Rogers, San Lorenzo Valley Water District, rrogers@slvwd.com

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER - MONTEREY DISTRICT

2022 SANITARY SURVEY REPORT

WATER SYSTEM: **BIG BASIN WATER COMPANY**
SYSTEM NUMBER: **4410001**

REPORT DATE: **June 15, 2022**
INSPECTION DATE: **February 10, 2022**

WATER SYSTEM CONTACTS: Jim Moore, Manager

SANITARY SURVEY INSPECTIONS AND REPORT REGULATORY BACKGROUND: Applicable authority – Environmental Protection Agency (EPA) Groundwater Rule (incorporated by reference within Title 22, California Code of Regulations, Section 64430).

Attachment A of this report includes a summary of deficiencies, recommendations, and water quality reminders.

Please note that this report and attached deficiency list are not intended to extend any of the compliance due dates in the enforcement actions issued to Big Basin WC. In case of any discrepancies, the directives in the enforcement actions supersede any of the deficiencies and corrective actions noted in this report, and the recent related enforcement actions must be referred to.

Population and Service Connection Summary

Approximate population served: **1,120**
No. of Service Connections: **482 (316 single family residential, 143 multi-family residential, 3 commercial, and 20 landscape irrigation)**

Permit Status

The State Water Resources Control Board – Division of Drinking Water (Division) issued a Domestic Water Supply Permit to Big Basin Water Company (Big Basin WC) on February 11, 1994. The Division has issued one permit amendment to Big Basin WC. The table below summarizes Big Basin WC's permits.

List of Permits		
Permit No.	**Issue Date**	**Reason**
Permit No. 02-05-44-94P-001	2/11/94	Full permit for the Big Basin WC, which at the time consisted of four surface water sources, seven storage tanks (10,000 gallon Robin Hood Tank, 42,000 gallon Robin Hood Tank, 5,000 gallon Oberst Tank, 7,000 gallon China Grade Tank, 325,000 gallon Galleon Tank, 60,000 gallon Rancho Dia Tank, and 210,000 Jamison Tank 02), five booster stations (Galleon Heights, Rancho Dia, Robin Hood, Oberst, and China Grade), the Jamison Surface Water Treatment Plant (150 gpm Microfloc Trimite Package Plant), chlorination, and a distribution system consisting of AC, PVC, and steel pipe (2" – 12").
2017PA_ SCHOOLS	1/17/2017	Requirements for lead monitoring and sample result interpretation at K-12 schools that submit a written request for assistance.

Is the water system complying with all permit requirements? **Yes.**
Is the permit up to date? **No**

Evaluation: Big Basin WC has undergone changes since the 1994 permit that are not reflected in the permit.

Changes Since Last Sanitary Survey

Since the last sanitary survey in 2018, Big Basin WC facility has undergone the following system changes:

- Disconnected and inactivated Jamison WTP, Jamison Creek, Corvin Creek, and Well 05 (Horizonal Well). The Jamison WTP and the transmission pipelines from its surface water sources were destroyed during the 2020 CZU Lightning Fire.
- Emptied and valved-off Rancho Dia/Rosita Tank and booster station.
- Removed Jamison Reservoir Cross-connection with the distribution system
- Valved off Tradewinds Booster Station water logged pressure tanks.
- Repaired Tradewinds Booster Station back-up power generator.

Enforcement

The enforcement actions issued by the Division against Big Basin WC since last sanitary survey are summarized in the table below:

Enforcement Action Number	Date issued	Purpose
Citation No. 02_05_19C_012	February 22, 2019	Failure to test all backflow preventers annually and failure to implement a cross connection control program.
Compliance Order No. 02_05_21R_001	April 9, 2021	Failure to provide an adequate supply of pure, wholesome, healthful, and potable water; Noncompliance with source capacity requirements; & Noncompliance with the 2018 sanitary survey report deficiency list.
Citation No. 02_05_21C_021	August 19, 2021	Failure to provide a reliable supply of potable water.
Citation No. 02_05_21C_030	October 28, 2021	Failure to comply with Compliance Order No. 02_05_21R_001 and Citation No. 02_05_21C_021
Citation No. 02_05_21C_033	November 2, 2021	Failure to monitor for lead and copper for 2021; Failure to monitor for disinfection byproducts for 2020 and 2021; Failure to monitor for source secondary MCLs, inorganic chemicals, nitrite, and synthetic organic chemicals for 2020.
Citation No. 02_05_21C_047	December 30, 2021	Failure to conduct source bacteriological monitoring for the 3rd quarter 2021, failure to submit a monthly summary for coliform monitoring for November 2021, and failure to follow an approved bacteriological sample siting plan.

Enforcement Action Number	Date issued	Purpose
Citation No. 02_05_22C_029	June 6, 2022	Failure to monitor for disinfection byproducts for during 1st quarter 2022

WATER SOURCES

List of Sources

Big Basin WC has one active groundwater source summarized in the table below.

List of Sources				
Source	**PS Code**	**Status**	**Capacity (gpm)**	**Comments**
Well 04 (Ground Water)	4410001-007	Active	210 reported by Big Basin WC. The Division assigned the well a capacity of 72 gpm based on hard rock well requirements.	Hard rock well with precautionary disinfection treatment.
TOTAL ACTIVE CAPACITY			**72 gpm or 0.104 million gallons/day (MGD)**	

Production Data

Production data from the previous 10 years, as reported in Big Basin WC's electronic annual reports (EAR) to the Division, is summarized in the following table:

Past 10 Years of Production Data (2008-2017) in Million Gallons (MG)			
Year	**Max Day**	**Max Month**	**Year Total**
2020	*0.48*	5.69	38.15
2019	*0.35*	7.32	67.00
2018	*0.27*	5.39	52.44
2017	*0.37*	7.62	64.51
2016	*0.51*	10.6	78.43
2015	*0.34*	7.09	68.38
2014	*0.48*	9.35	74.18
2013	No EAR Submitted		
2012	***0.62***	12.71	98.92
2011	*0.59*	12.21	83.38

**Italicized* values indicate a calculated value using Section 64554 guidelines.
Note: as of the date of this sanitary survey report, Big Basin WC has not sent a 2021 EAR to the Division, which is overdue.

Source & Storage Capacity Evaluation

Title 22, California Code of Regulations (CCR) Section 64554 (a) requires maximum day demand (MDD) to be met with source capacity. MDD is calculated as the highest observed water demand in the past ten years. Using past annual reports and tabulated in the Production Data table, the 10 year MDD is **0.62** MGD (2012). Big Basin WC's active source capacity is **0.104 MGD**.

CCR, Title 22, Section 64554 (g) specifies hard rock well source capacity as 25 percent of the maximum capacity. The 72-hour pumping test for Well 4, conducted in 1980, demonstrated a maximum capacity of 288 gpm. Therefore, the capacity of Well 4 is 25 percent of 288 gpm or 72 gpm (0.104 MGD). Big Basin WC reported that current capacity is about 210 gpm.

Section 64554(a)(2) requires systems with less than 1,000 service connections to have storage capacity equal to or greater than MDD, unless the system can demonstrate that it has an additional source of supply or has an emergency source connection that can meet the MDD requirement.

Big Basin WC is not able to meet the 10 year MDD of 0.62 MGD (2012) with source capacity alone. The Division has received numerous water outage complaints reported by Big Basin WC customers during the past few years. Compliance Order (CO) No. 02_05_21R_001 was issued on April 9, 2021 for noncompliance with source capacity requirements. CO Directive 1 required Big Basin WC to submit a proposal by June 10, 2021 and meet the source capacity requirements no later than March 10, 2022. Directive 4 of Citation No. 02_05_21C_030 dated October 10, 2021, required Big Basin WC to submit the proposal by January 10, 2021, to comply with the source capacity requirements by March 10, 2022. As of the date of this report, Big Basin WC has not submitted the required documents.

Big Basin WC can meet the 10 year MDD with storage capacity. Source and storage capacity requirements are summarized in the following table:

Summary of Source & Storage Capacity Requirements			
Parameter	**Requirement (MGD)**	**Capacity (MGD)**	**Requirement Met?**
Maximum Day Demand - Sources	0.62	0.104	**No**
Storage Capacity	0.62	0.703	**Yes**

Drinking Water Source Assessment Program (DWSAP)
The Division has a DWSAP on file for Well 4, dated December 2002.

Inactive Sources
Big Basin WC has following six inactive water sources listed in the Division's database - Corwin Creek, Forest Spring, Galleon Well 01, Well 02, Jamison Springs, and Well 05.

Sources - Overall Evaluation
Well 04 is the only active water source in the system. Well 04 was inspected during the sanitary survey. The following deficiency was identified during the sanitary survey:

- Well 04 does not have a backup power for emergencies. Refer to Auxiliary Power Supply section of this report.

- The external features of Well 04 do not include a backflow protected pump-to-waste line, as required by California Waterworks Standard. Big Basin WC must install a pump-to-waste line at Well 04.

TREATMENT

Groundwater Treatment

In March 2019, Big Basin WC started providing wellhead disinfection treatment to the raw water from Well 04. HASA Multi-Chlor, NSF 60 certified 12.5% sodium hypochlorite solution is stored in two 5-gallon storage containers at the treatment facility, which is diluted in a 20-gallon double wall container and injected into the well discharge pipeline, upstream of the nearby storage tank, using a 12-gpd Pulsatron metering pump.

DISTRIBUTION SYSTEM

Pressure Zones

The distribution system consists of five pressure zones. According to the water system, there are no areas of the water system with less than 20 psi (minimum distribution pressure per California Code of Regulations, Section 64602). However, during 2021 the Division received numerous reports from the Big Basin WC customers of no water or loss of water pressure in the distribution system.

Distribution Mainlines

Big Basin WC has roughly 20 miles of distribution mainline ranging in size from 2” to 12” in diameter. Big Basin WC mainlines consist of various materials including C900, aged steel, and asbestos cement. According to Big Basin WC, the water system does not have any known lead service lines.

In the 2018 Sanitary Survey Report, the Division recommended Big Basin WC to develop a main replacement plan to replace leaky, aged, undersized (less than 4”), and above ground mainlines as part of a capital improvement plan.

By Directive 5 of the Citation 02_05_21C_030, Big Basin WC was directed to submit by December 31, 2021, with a schedule for completing remaining corrective actions which also includes a main replacement program, with a final completion date no later than February 28, 2023. As of the date of this report, Division has not received the required schedule.

New water main installations must follow CCR, Title 22, Chapter 16 (Waterworks Standards), Article 4 (Materials and Installation of Water Mains and Appurtenances) and Article 5 (Disinfection Requirements). If Waterworks Standards are unable to be met, please contact the Division prior to commencing construction.

Distribution System Leak Program

According to the 2020 EAR, Big Basin WC had one water outage due to the CZU Lightning Fire in 2020. However, the Division received multiple water outage complaints from the Big Basin WC customers during 2021. Big Basin WC has not submitted the 2021 Annual Report. Big Basin WC fixes small leaks and contracts for larger repairs.

Big Basin WC must issue public notification to residents losing pressure during any leaks, main breaks, or scheduled mainline replacement. Prior to distribution, please contact the Division for review and approval of any unsafe water notification sent to your customers.

Recycled Water
None according to Big Basin WC.

Water Main Separation Criteria
Big Basin WC separation criteria between non-potable lines and new or replacement water mains must follow the requirements established in CCR, Title 22, Section 64572.

Valve Exercising and Maintenance Program
No. of Valves/size: **50 valves 2" to 12" size range** (According to the 2020 Annual Report)
Valve exercising frequency: **None in 2020.**
Have all valves been mapped? **Yes, according to Big Basin WC.**

Evaluation: Big Basin WC exercises most system valves once every two years. Some system isolation valves are in poor condition and unable to be exercised. Aged system isolation valves that Big Basin WC cannot exercise due to their condition, should be replaced. All isolation valves deemed critical by Big Basin WC must be in good condition and included in the valve exercising rotation. Big Basin WC needs to develop a valve exercise program, all valve exercising needs to be recorded, and the records need to be stored.

According to Big Basin WC, there are some stretches of mainline without an isolation valve for miles. By Directive 5 of the Citation 02_05_21C_030, Big Basin WC was directed to submit by December 31, 2021, with a schedule for completing remaining corrective actions which also includes adding isolation valves to the distribution system, with a final completion date no later than February 28, 2023. As of the date of this report, Division has not received the required schedule.

Dead End Flushing Program
No. of dead ends: **None** (According to the 2020 Annual Report)
No. Flushed in 2020? **All by fire trucks drawing water from the hydrants during CZU Lightning Fire.**
Flushing Frequency: **None.**

Evaluation: Big Basin WC needs to develop a dead end flushing program and begin keeping records of number of dead ends, flushing frequency, and dates of system flushing.

Operational Controls
The water system is controlled by float valves and manual operation.

Water System Interconnections
Big Basin WC supplies water to Forest Spring Improvement and Maintenance Association (IMA), Bracken Brae, and an adjacent three home community. More details are included in the table below:

Interconnections			
Water System	**No. Connections**	**Length**	**Comments**
Forest Springs IMA	126	--	1" connection. Sole water source for water system.
Bracken Brae Country Club	24	--	1" line to ¾" meter. Sole water source for water system.

PUMPS AND PUMPING FACILITIES

Booster Station List				
Name	**# Pumps**	**Individual HP**	**GPM**	**Remarks**
Galleon Heights	1	50	425	Operates based on timer to fill Galleon Heights Tank. Leaking gate valve.
Rancho Dia	2	-	35	Did not inspect. For emergency use only to fill Rancho Dia Tank.
Robin Hood	1	5	25	Operates based on manual timer to fill Robin Hood Tanks.
Branson Ranch/Oberst	1	7.5	50	Two backup pumps. No backup power.
China Grade/Camino	2	1 and 3		3-HP pump for Hill House Tank is switched off due to tank destroyed by fire
Tradewinds (at Galleon Heights Tank)	3 (one fire)	10, 10, and Unknown (fire)		Pressure tanks valved off. Fire pump not working. Two pumps alternate once per month to maintain Galleon Zone system pressure 65 to 80 psi measured at the pump discharge. 50 kW generator exercised once per month.

Pumps and Pumping Facilities – Overall Evaluation:

Booster stations were observed to be inadequate to poor overall condition. The following deficiencies and recommendations were found during the sanitary survey.

- Galleon Heights Booster Station: A gate valve was observed leaking with water dripping inside the housing. The leaking valve needs to be repaired. To ensure that the Galleon Heights pressure zone distribution system pressure can be reliably maintained without outages, by Directive 1 of Citation 02_05_21C_021, Big Basin WC was required to submit a corrective action plan by September 16, 2021, with a schedule for replacing the pumps and appurtenances at the Galleon Heights booster station and installing reliability features, such as alarms and backup power capabilities, with a final completion date no later than November 30, 2021.

  By Directive 2 of the Citation 02_05_21C_030, Big Basin WC was directed to submit the corrective action plan by December 31, 2021, with a schedule for replacing the pumps and appurtenances at the Galleon Heights booster station and installing reliability features, such as alarms and backup power capabilities, with a final completion date no later than January 31, 2022. As of the date of this report, Division has not received the required corrective action plan.

- Tradewinds Booster Station: The fire pump at this location was not working. Big Basin WC must ensure there is adequate system pressure for fire flow and the pump required to maintain

fire flow must be in working order. The waterlogged pressure tanks are valved-off but not physically disconnected from the system and replaced as per Big Basin WC's corrective action in the March 3, 2019 response letter. Big Basin must follow Directive 5 of Citation 02_05_21C_030 regarding Tradewinds Booster Station improvements.

FINISHED WATER STORAGE

Big Basin WC has eight storage tanks, which are described in the table below:

Storage Tank List				
Tank Name	**Inspected?**	**Material**	**Capacity (MG)**	**Comments**
Jamison Tank	Yes	Bolted Steel	0.210	Floats on the system; Unthreaded sample tap.
Well Tank	Yes	Bolted Steel	0.084	**Threaded sample tap.**
Galleon Heights Tank	Yes	Welded Steel	0.325	Cleaned in 2019 and replaced vent screens, hatch gaskets. **Inadequate air-gap between overflow outlet and the ground**; **Needs finer screen on the overflow outlet.**
Robin Hood/Kings Hwy (Bolted Steel)	Yes	Bolted Steel	0.042	**Threaded sample tap;** Clean interior; Sealed roof hatch; Screened roof vent; Flap on overflow outlet.
China Grade/Camino Verde	Yes	Polyethylene	0.005	NSF 61; **No sample tap;** Radio controlled; Separate inlet/outlet; Sealed roof hatch; Filled by Camino Pump Station
Oberst Tank	Yes, but didn't inspect roof features	Welded Steel	0.005	Single inlet/outlet; Screened overflow; unthreaded sample tap; **Severely corroded, with hole in the sidewall.**
Bloom Grade Tank	No	Bolted Steel	0.022	**Big Basin WC must submit recent photos of these tanks, showing tank interior and exterior conditions, and all external features, including roof hatches, access ladders, vent screens, overflows, drains, sample taps, inlets and outlets.**
Hill House Tank	No	Polyethylene	0.010	
TOTAL STORAGE CAPACITY			**0.703**	

Storage Tanks – Overall Evaluation:

The Division identified the following storage tank deficiencies and recommendations that require attention:

1. Well Tank
   The threaded sample tap on the tank outlet line must be replaced with an unthreaded sample tap to prevent cross-contamination.

2. Galleon Heights Tank
   a. The overflow line terminates about two inches above the ground surface. The air-gap protection must be at least twice the diameter of the overflow pipe. The overflow outlet has a coarse screen protection. The overflow outlet must have adequate air-gap and protected against animals and insects with a 24 mesh or finer screen or a flapper valve.

3. Robin Hood Tank (Bolted Steel):
   a. The threaded sample tap on the tank outlet line must be replaced with an unthreaded sample tap to prevent cross-contamination.

   b. The tank does not have a drain. As noted in the 2018 Sanitary Survey Report, drain must be installed during the next major tank rehabilitation or cleaning.

   c. As noted in the 2018 Sanitary Survey Report, the center roof vent does not have a fine mesh screen. A corrosion resistant fine mesh screen designed to prevent the entry of insects must be installed.

   d. As noted in the 2018 Sanitary Survey Report, the roof access hatch does not have a seal. Please install a seal or gasket to prevent the entry of insects.

4. China Grade Tank
   a. The tank does not have a sample tap. Big Basin WC must install an unthreaded sample tap to collect water samples from the tank.

5. Oberst Tank
   a. The interior and exterior of the tank are severely corroded with a hole in the sidewall. Big Basin WC must seal the hole so that there are no openings wide enough for insects, or other contaminants to enter and contaminate.

   b. Large rust nodules were observed attached to the interior tank wall. The corrosion presents a sanitary and structural risk.

   c. By Directive 5 of the Citation 02_05_21C_030, Big Basin WC was directed to submit by December 31, 2021, with a schedule for completing remaining corrective actions which also includes replacing the Oberst Tank and installing a fence, with a final completion date no later than February 28, 2023. As of the date of this report, Division has not received the required schedule.

6. Bloom Grade and Hill House Tanks
    a. These tanks were not inspected during this sanitary survey. Big Basin WC must confirm that these tanks no longer exist in the system or provide photographs of the tanks to the Division showing interior and exterior conditions, all external features, including roof hatches, access ladders, vent screens, overflows, drains, sample taps, inlets and outlets.

Tank Inspection Program
How often are tanks inspected? **Unknown.**
Roof Inspections? **Unknown.**
Inspections recorded? **Unknown.**
Frequency of dive inspections? **Unknown.**

Evaluation: Big Basin WC does not provide storage tanks inspection reports to the Division.

By Directive 5 of the Citation 02_05_21C_030, Big Basin WC was directed to submit by December 31, 2021, with a schedule for completing remaining corrective actions which also includes a schedule of routine tank inspections and procedures for tank cleaning, with a final completion date no later than February 28, 2023. As of the date of this report, Division has not received the required schedule.

Based on the poor overall condition of Big Basin WC's storage tanks, Big Basin WC is not overseeing an adequate tank inspection and maintenance program.

MONITORING, REPORTING, AND DATA VERIFICATION

Bacteriological Source and Distribution Monitoring
Population: **1,120**
Service Connections: **482**
Distribution Samples: **Two per month rotated among six sample sites**
Source Samples: **Quarterly (groundwater)**
Bacteriological Sample Siting Plan Date: **January 2022**
Groundwater Rule Plan: **Well 4 sampled after distribution total coliform positive.**
Total Coliform Rule Violations in past three years? **Yes.**

Evaluation: Big Basin WC started disinfection treatment in Well 04 in March 2019 but failed to collect quarterly source bacteriological samples until 1st quarter 2022. Additionally, Big Basin WC did not monitor at the sites listed in their approved BSSP and rotation schedule and did not submit a monthly summary of bacteriological results in November 2021. A citation was issued in December 2021 for these violations.

Source Chemical Monitoring
The Big Basin WC's source monitoring detections and an evaluation of each required source chemical monitoring group is tabulated below:

Source Chemical Monitoring Requirements, Detections, and Evaluation		
Chemical or Chemical Set	**Detections above DLR – Most recent sample (excluding treated sources)**	**Evaluation**
Inorganic Chemicals	None above half the MCL	In compliance
Nitrate (as Nitrogen)	All less than half the MCL	In compliance
Nitrite	All less than half the MCL	In compliance
Synthetic Organic Compounds(SOC)	None above the DLR	Non-waived SOCs: 2,4 D, Atrazine, Diquat, Simazine, 1,2,3-TCP
Volatile Organic Compounds(VOC)	None above the DLR	In compliance
Gross Alpha	None above 3 pCi/L	In compliance
Radium 226 & 228	None above 1 pCi/L	In compliance
Secondary MCLs	Nothing significant, except manganese which was 70 ug/L in November 2021, exceeding secondary MCL of 50 ug/L.	In compliance. Manganese is on quarterly monitoring to determine compliance.

The monitoring dates for Big Basin WC's Well 04 are tabulated below:

Last Source Chemical Monitoring Dates									
Secondary MCLs	**Manganese**	**Inorganics**	**Perchlorate**	**Nitrate (as N)**	**Nitrite**	**Gross Alpha**	**Rad 226+228**	**VOC**	**Non-Waived SOCs**
Feb -22	Feb -22	Nov-21	Dec-19	Feb-22	Nov-21	Dec-17	Dec-17	Dec-17	Dec-21

Next Due Chemical Monitoring Dates									
Secondary MCLs	**Manganese**	**Inorganics**	**Perchlorate**	**Nitrate (as N)**	**Nitrite**	**Gross Alpha**	**Rad 226+228**	**VOC**	**Non-Waived SOCs**
2025	**2nd Qtr 2022**	2024	**2022**	2023	2024	2026	2026	2023	2024

Minimum Monitoring Frequencies (in months)*									
Secondary MCLs	**Manganese**	**Inorganics**	**Perchlorate**	**Nitrate (as N)**	**Nitrite**	**Gross Alpha**	**Rad 226+228**	**VOC**	**Non-Waived SOCs**
36	**3**	36	36	12	36	108	108	72	36

Evaluation: Big Basin MWC must monitor Well 04 for:

- Manganese in **2nd Quarter 2022**, and continue quarterly monitoring thereafter.
- Perchlorate by **December 31, 2022**.

Unregulated Source Contaminants

None above established notification levels.

Disinfection By-Product Rule (DBPR) Monitoring

Big Basin WC is required to monitor at one approved TTHM distribution sample location and one HAA5 distribution system sample location quarterly in accordance with the monitoring plan. Big Basin WC's approved DBPR Sample sites are shown below:

DBPR Sample Sites	
PS Code	**Location**
4410001-801	210 Compass Court (TTHM Sample site)
4410001-802	Unit #2 Common (HAA5 Sample site)

Samples submitted to Division via electronic submittal: All DBPR monitoring results from 2020 in the Division's electronic database are tabulated below.

DBPR Monitoring Summary (ug/L)										
Sampling Location	**Monitoring Quarter**									
	1Q20	**2Q20**	**3Q20**	**4Q20**	**1Q21**	**2Q21**	**3Q21**	**4Q21**	**1Q22**	**LRAA**
210 Compass Court (TTHM Site)	44	25	-	-	-	-	-	67	-	
Unit #2 Common (HAA5 Site)	35	30	-	-	-	-	ND	ND	-	

LRAA = locational running annual average

Evaluation**:** Big Basin WC has not conducted required quarterly DBPR monitoring. All monitoring results are reported to the Division via Electronic Data Transfer. Citations were issued in November 2021 and June 2022 for failure to conduct required quarterly DBPR monitoring.

Big Basin WC, as a system using only ground water not under direct influence of surface water and using chemical disinfectant, with a population of 500 – 9,999, may complete and submit **Attachment D** - Stage 2 DBPR Compliance Monitoring Plan for review and approval by the Division to collect two dual sample sets per year during the warmest month of the year. Until the Division approves an updated plan, the current monitoring requirements still apply.

Chlorine Residual Distribution System Monitoring

Big Basin WC conducts the chlorine residual distribution monitoring at the time and locations of routine bacteriological monitoring in the distribution system. However, Big Basin WC has not submitted required quarterly chlorine residual distribution monitoring results to the Division since 2nd Quarter 2018. Based on the chlorine residuals noted in the monthly distribution system bacteriological

monitoring reports submitted to the Division, Big Basin WC has not exceeded the chlorine Maximum Residual Disinfectant Level (MRDL) of 4.0 mg/L.

Big Basin WC must provide the Division with a quarterly summary of disinfectant residual in the distribution system using the forms included in **Attachment B** of this report.

Lead and Copper Rule (LCR) Monitoring
Required Frequency: **Once every three years**
Number of Sample Sites Required: **10**
Next Round of Monitoring Due: **Between June 1 and September 30, 2022.**

Evaluation: The Big Basin WC is required to collect lead and copper tap sampling at a minimum of 10 sites in accordance with Table 647675-A of the California Code of Regulations. The 90th percentile results for the 2017 lead and copper monitoring have been less than the established action levels. However, the water system is not in compliance with LCR monitoring and failed to conduct the triennial monitoring in 2020. A citation was issued in December 2021 for this violation and directed Big Basin WC to collect 10 tap sample locations between June 1 to September 30, 2022.

Lead Sampling In Schools
Is the water system familiar with the requirements of the lead sampling in schools permit and regulation? **Yes**
How many requests has the water system received? **According to Big Basin WC, the water system does not serve any schools.**

Monitoring Data Record Retention
Are chemical/bacteriological laboratory data retained? **Unknown**
Are operational records retained: **Unknown**
Duration of retention**: Unknown** Method of Storage**: Unknown**
Is all source and disinfection by-product rule data reported to the Division via EDT? **Yes**

Evaluation: The Division does not have information on Big Basin WC's current data retention program. Big Basin WC has stated that most records were lost in the 2020 CZU Lightning Complex fire. Big Basin WC must provide the above unknown information about the monitoring and data record retention program to the Division.

Lead Service Line (LSL) Inventory
Is LSL Inventory completed and certification form received? **Yes**
Did water system report any lead or unknown material service lines? **No**

Evaluation: In compliance.

Reporting to the Division
Date of last Annual Report to the Division: **May 20, 2021. The Division has not received Big Basin WC's 2021 Annual Report.**
Date of last Consumer Confidence Report: **2021 CCR has not been received.**

Evaluation: Big Basin WC must complete and submit the 2021 Annual Report to the Division. The 2021 CCR is due by July 1, 2022. As per Directive 1 of Citation 02_05_21C_047, Big Basin WC was

required to submit the draft 2021 CCR to the Division for Review **by June 1, 2022**. The Division has not received a draft of 2021 CCR.

SYSTEM MANAGEMENT AND OPERATION

Cross-Connection Control and Backflow Testing Program
Name of Cross-connection control coordinator(s): **Currently unknown. Ben Bennett was listed in the 2020 Annual Report.**
Does the utility have a current Cross-Connection Control Ordinance or Operating Rules? **Yes, dated September 2019.**
Last cross-connection control survey done on the system – **June 8, 2020 (Per 2020 Annual Report)**
Number of Backflow Preventers**: 13 (Per 2020 Annual Report), none tested in 2019 and 2020.**
Wastewater Treatment Plants? **Yes**

Evaluation: On February 22, 2019, Citation No. 02_05_19C_012 was issued for failure to test all backflow preventers annually and for failure to implement a cross-connection control program from 2008 through 2017. Big Basin WC submitted a copy of the cross connection control program in October 2019. However, Big Basin WC did not test any backflow assemblies in 2019 and 2020, which is a violation of CCR, Title 17, Section 7605.

Big Basin WC must do the following:

- Submit to the Division an inventory of all backflow prevention assemblies in the Big Basin WC service area and 2021 backflow testing records by **June 30, 2022**.

- Big Basin WC reported in the 2020 Annual Report that cross-connection survey was completed on June 8, 2020. Submit a copy of the June 8, 2020 cross-connection control survey done on the system to the Division no later than **July 31, 2022**.

Customer Complaint Program
Are all complaints recorded? **Unknown.**
Digital/Hard Copy Tracking? **Unknown**
Does the water system respond to all complaints? **Unknown.**

Summary of Customer Complaints (2018 – 2020)

Year	Taste/Odor	Color	Turbidity	High/Low Pressure	Outages	Other	Total
2020	0	0	0	0	1	0	1
2019	0	0	0	0	0	0	0
2018	2	0	0	0	0	0	2

Evaluation: Big Basin WC must maintain a customer complaint log and report the results to the Division in the Annual Reports. Over the past several years, Big Basin WC has not provided a satisfactory customer complaint program. The Division has received many customer complaints including water outages and colored/dirty water from customers who were unable to reach or receive a timely response from a Big Basin WC representative. Division staff has spent considerable amount of time responding to and following up with the Big Basin WC customers, as well as contacting Big Basin WC to make them aware of their system issues and requesting resolutions.

Directive 4 of CO No. 02_05_21R_001, required Big Basin WC to submit an Operations and Maintenance Plan (O&M Plan) by July 10, 2021, including a plan and procedures for responding to water system emergencies and power outages, customer complaints, etc. Big Basin WC has failed to submit the required O&M Plan for the system. By Directive 6 of the Citation 02_05_21C_030, dated October 28, 2021, Big Basin WC was directed to submit by December 31, 2021, O&M Plan by December 31, 2021. As of the date of this report, Division has not received the required O&M Plan.

Auxiliary Power Supply

Auxiliary Power for: Water Sources? **No** Pumping Stations? **For Tradewinds Booster Station only.** Disinfection Treatment? **No**
How frequently is backup power tested? **Once per month.**
Backup power automatic or manual start: **Manual.**
Can system pressure be maintained either by backup power or by storage during power outages of two hours or less? **Unknown.**

Evaluation: CO No. 02_05_21R_001, Directive 4 and Citation 02_05_21C_030, Directive 6 included the requirement to submit O&M Plan with documentation showing ownership/rental contract to obtain backup power generators at Well 4 and other critical locations to maintain system pressure that currently do not have back power generators. As of the date of this report, Big Basin WC does not have backup power at Well 4, or a plan to install a generator during a power outage.

Water System Mapping

Does the utility have up-to-date distribution system maps? **No**

System Security

Overall site security is marginal. Several tank sites do not have fencing. The Division strongly recommends all well and tank sites are fenced and provided with a locked gate.

Emergency Response Program

Date of most recent Emergency Notification Plan (ENP): **Unknown (ENP not up-to-date per 2020 Annual Report)**
Date of Emergency Response Plan: **None on File**
Emergency Response Training or Table Top Exercises: **None**

Evaluation: Big Basin WC must provide the Division with an updated Emergency Notification Plan using the form included in **Attachment C** of this report. As proposed in Section 4.11 of the Big Basin WC's response letter dated March 3, 2019, an Emergency Response Plan should be completed in 2022.

WATER SYSTEM MANAGEMENT

Management Structure

Who owns the water system? **Big Basin Water Company**
Water System Type**: Private-for-profit, CPUC regulated**
Current organizational chart on file? **No** Manager: **Jim Moore**

Water System Financial Outlook
Are adequate reserve funds available to support maintenance and staffing requirements?
Unknown
Is there a Capital Improvement Plan (CIP)? **None on file with the Division.**

Evaluation: Big Basin WC's finances are overseen by the California Public Utilities Commission (CPUC). The Division has not been provided Big Basin WC's financial statements, but according to Big Basin WC, water system upgrades cannot be completed due to financial restrictions.

Big Basin WC has failed to respond to majority of the critical system repair, maintenance, and improvement related directives in the Citation 02_05_19C_012, CO 02_05_21R_001, Citation 02_05_21C_021, and Citation 02_05_21C_030.

OPERATOR CERTIFICATION

Per CCR, Title 22, Section 64413.3, water systems are assigned their distribution classification based upon population size and other distribution system related factors. Big Basin WC is classified as a Distribution 3 (D3) water system.

Distribution System Classification Summary		
Classification	**Chief/Shift Requirement**	**Population / Points**
D3	D3 / D2	1120 / 25 Points

According to Big Basin WC's 2020 electronic annual report, Damian Moore (D3) is Big Basin WC's certified operator, with a distribution certification expiration date January 1, 2025. Big Basin WC has not assigned a shift distribution system operator.

Staffing Evaluation
According to Big Basin WC, the water system is not adequately staffed. The Division recommends Big Basin WC add additional certified operators to ensure coverage to complete preventative maintenance (valve exercising, dead end flushing, tank inspections, etc.).

The Division recommends Big Basin WC contract with a cross connection control professional to administer the cross connection control survey and program until Big Basin WC has additional staffing.

RESILIENCY AND PREPAREDNESS

The effects of extreme weather on community water system (CWS) facilities and operations are a concern and priority of the State Water Resources Control Board (SWRCB), which is documented by the SWRCB in its Comprehensive Climate Change Resolution No. 2017-12, adopted in March 2017. DDW is reviewing each water system's level of resiliency and preparedness for changing climate conditions and extreme weather increase awareness to the potential effects to facilities and operations and encourage the use of EPA's Climate Resilience Evaluation and Awareness Tool (CREAT).

As part of the 2020 Annual Report, CWSs were asked to identify their climate-related vulnerabilities, and rank them as either high, medium or low sensitivity, and proposed or implemented projects to prepare for the impacts from climate change. Big Basin WC provided responses to these questions, and indicated they have high to low sensitivity to potential impacts.

Big Basin WC identified the following high-sensitivity (or already experiencing) potential impacts that their facilities are vulnerable to:

- Increased fire risk and altered vegetation.

Big Basin WC identified the following medium-sensitivity potential impacts that their facilities are vulnerable to:

- Groundwater depletion (increased extraction, reduced groundwater recharge, etc.)
- Change in seasonal runoff and/or loss of snowmelt
- Peak demand volume surges (due to extreme heat, temperature trends, etc.)

Big Basin WC identified the following low-sensitivity potential impacts that their facilities are vulnerable to:

- Decreased water storage (low lake and reservoir levels)
- Water Quality Degradation
- Flooding
- Disruption of power supply

In the 2020 Annual Report, Big Basin WC indicated they have implemented, or is considering implementing, the following projects to address current identified needs and which also reduce the impacts to these vulnerabilities:

- Alternative or backup energy supply – Completed, per 2020 Annual Report, but back up power generators could not be located at well and all but one pump stations during the 2022 sanitary survey.
- Interconnection with other utilities (transfers, mutual aid agreements with neighboring utilities) – Plan to implement per 2020 Annual Report but interconnection not completed as of the date of this sanitary survey report.
- Relocate facilities, construct or install redundant facilities – In progress, per 2020 Annual Report but no relocated or redundant facilities found during the 2022 sanitary survey.
- Conservation measures (demand management, enhanced communication and outreach) – Plan to implement per 2020 Annual Report, however, none reported to the Division.
- Fire prevention (brush management, partnerships) – Plan to implement per 2020 Annual Report, however, none reported to the Division.
- Enhanced monitoring program, budget for additional testing and treatment – Will not implement.

Big Basin WC was made aware of the CREAT tool, developed by USEPA for identifying climate vulnerabilities, in the 2018 and 2019 ARDWP. The SWRCB strongly encourages utilities to evaluate infrastructure and operational vulnerabilities to extreme weather and other emergency conditions using tools such as CREAT and engaging in a conversation both within your water system organization and with customers on how to plan and prepare for being resilient to provide clean and safe water reliably and adequately under all current and future conditions.

FIRE: Is a defensible space of 100 feet (California Public Resources Code, 4291) maintained around all sources and structures managed by the Water System? **No.**

The Division recommends Big Basin WC maintain at least 100' of defensible space around water system facilities. At many facilities, this is not possible due to the terrain and lot size restrictions, but Big Basin WC should maintain as much defensible space as possible around all water system facilities by trimming nearby branches, preventing buildup of fallen branches and pine needles, etc. Defensible space can be improved at the Well 04, disinfection treatment, all storage tanks, and pump locations.

FLOODING: There are no drinking water facilities vulnerable to flooding that were reported to the Division in the 2020 Annual Report.

BACKUP POWER: Big Basin WC has one backup power generator available only for Tradewinds Booster Station. The Well 04 and all other booster stations do not have backup power.

DROUGHT: Big Basin WC is reliant on a single source and has no additional sources or interties and is therefore not prepared for drought related shortages.

DEGRADING SOURCE WATER QUALITY: Big Basin WC has indicated they are not at risk of degrading source water quality in the 2020 Annual Report.

RESILIENCY AND PREPAREDNESS SUMMARY: Deficiencies found during the sanitary survey are listed below:

- **Alternative or backup energy supply – Back up power generators are not available at well and all booster stations, except Tradewinds Booster Station.**
- **Interconnection with other utilities (transfers, mutual aid agreements with neighboring utilities) – Big Basin WC does not have an interconnection with neighboring utilities.**
- **Relocate facilities, construct or install redundant facilities – Big Basin WC reported in 2020 Annual Report that they are in progress, but no relocated or redundant facilities found during the 2022 sanitary survey or reported to the Division.**
- **Conservation measures (demand management, enhanced communication and outreach) – Big Basin WC reported in 2020 Annual Report that they plan to implement conservation measures, however, none are reported to the Division.**
- **Fire prevention (brush management, partnerships) – Big Basin WC reported in 2020 Annual Report that they plan to implement fire prevention. However, none was reported to the Division or observed during the 2022 sanitary survey.**

ATTACHMENTS

A. Deficiency List, Recommendations, and Reminders
B. Quarterly Disinfectant Reporting Form
C. Emergency Notification Plan Form
D. Stage 2 DBPR Compliance Monitoring Plan template

Report prepared by:

Shaminder Kler Digitally signed by Shaminder Kler
Date: 2022.06.15 08:24:04 -07'00'

Date: June 15, 2022

Shaminder Kler, P.E.
Associate Sanitary Engineer, Monterey District

Attachment A

Deficiency List, Recommendations, and Reminders

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER
ATTACHMENT A: 2022 SANITARY SURVEY DEFICIENCY LIST & RECOMMENDATIONS

Purveyor: **Big Basin Water Company (4410001)**
Inspection Date: **February 10, 2022**

Updated by: _____

Date: _____

ORDER OF HAZARD:
A. CRITICAL HEALTH HAZARD - CORRECTIVE ACTION MUST BE TAKEN IMMEDIATELY
B. SERIOUS HEALTH HAZARD - ACTION MUST BE TAKEN AS SOON AS POSSIBLE
C. POTENTIAL HEALTH HAZARD - MUST BE CORRECTED AS WORKLOAD PERMITS
D. SYSTEM OR OPERATIONAL DEFECT RESULTING IN POOR WATERWORKS PRACTICE

2022 SANITARY SURVEY – DEFICIENCY LIST

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
	SOURCES			
Feb 2022	**Well 04 pump-to-waste:** Well 04 piping does not have a dedicated discharge to waste outlet as required by the California Waterworks Standards.	D	December 31, 2022	
	DISTRIBUTION SYSTEM			
Oct 2018	***Distribution Mainlines:*** Failed to follow Directive 5 of the Citation 02_05_21C_030, to submit a schedule by December 31, 2021, for completing remaining corrective actions which also includes a main replacement program.	C	**OVERDUE** Refer to Citation 02_05_21C_030 Directive 5	
Oct 2018	***Valve Exercising and Maintenance Program:*** Failed to follow Directive 5 of the Citation 02_05_21C_030, to submit a schedule by December 31, 2021, for completing remaining corrective actions which also includes adding isolation valves to the distribution system.	C	**OVERDUE** Refer to Citation 02_05_21C_030 Directive 5	
	BOOSTER STATIONS			
Oct 2018	***Galleon Heights Booster Station***: A gate valve was found leaking, creating unsanitary conditions inside the pump station. Big Basin WC failed to follow Directive 2 of the Citation 02_05_21C_030. Directive 2 required submitting a corrective action plan by December 31, 2021, with a schedule for replacing the pumps and appurtenances and installing reliability features, such as alarms and backup power capabilities, with a final completion date no later than January 31, 2022.	A	**OVERDUE** Refer to Citation 02_05_21C_030 Directive 2	

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
Oct 2018	***Tradewinds Booster Station Waterlogged Pressure Tanks**:* Valved-off pressure tanks that are waterlogged and need to be removed or replaced. Big Basin WC failed to submit a schedule for completing remaining corrective actions which also includes Tradewinds Booster Station improvements as per Directive 5 of Citation 02_05_21C_030.	C	**OVERDUE** Refer to Citation 02_05_21C_030 Directive 5	
Oct 2018	***Tradewinds Booster Station Piping and Valving Corrosion:*** Aged and corroded piping and valving associated with this booster station. Big Basin WC failed to submit a schedule for completing remaining corrective actions which also includes Tradewinds Booster Station improvements as per Directive 5 of Citation 02_05_21C_030.	C		
Feb 2022	***Tradewinds Booster Station Fire Pump:*** Big Basin WC must ensure that there is adequate system pressure during emergencies. If the fire pump is required to maintain the system pressure for emergencies, it must be repaired.	C		
	STORAGE			
July 2018	***Galleon Tank Overflow:*** The airgap between overflow outlet and the ground is less than twice the pipe diameter. Big Basin WC failed to submit a schedule for completing remaining corrective actions which also includes Galleon Heights Tank improvements as per Directive 5 of Citation 02_05_21C_030.	C	Refer to Citation 02_05_21C_030 Directive 5	
Feb 2022	***Robin Hood Bolted Steel Tank Sample Tap:*** The threaded sample tap must be replaced with an unthreaded sample to avoid potential cross-connections.	C	September 10, 2022	
Oct 2018	***Robin Hood Bolted Steel Tank Drain:*** The tank does not have a drain. A drain must be installed during the next major tank rehabilitation or cleaning.	C	During next rehabilitation or cleaning	
Oct 2018	***Robin Hood Bolted Steel Tank Roof Hatch Seal:*** The roof access hatch does not have a seal. Please install a seal or gasket to prevent the entry of insects. **OVERDUE** since March 10, 2019.	C	July 31, 2022	
Oct 2018	***Robin Hood Bolted Steel Tank Vent Screen:*** The center roof vent does not have a fine mesh screen. A corrosion resistant fine mesh screen designed to prevent the entry of insects must be installed. **OVERDUE** since March 10, 2019.	C	July 31, 2022	
Feb 2022	***China Grade Tank:*** There is no sample tap to collect samples from the tank. An unthreaded sample tap must be installed on the tank wall or discharge outlet.	C	December 31, 2022	

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
Oct 2018	***Oberst Tank Replacement Plan***: Failed to follow Directive 5 of the Citation 02_05_21C_030, to submit a schedule by December 31, 2021, for completing remaining corrective actions which also includes replacing the Oberst Tank and installing a fence.	A	**OVERDUE** Refer to Citation 02_05_21C_030 Directive 5	
February 2022	***Oberst Tank* Sidewall**: The sidewall of the tank has a small hole that must be covered to ensure there are no unscreened opening on the tank that can potentially contaminate the tank water.	A	July 10, 2022	
Feb 2022	***Well Tank***: The threaded sample tap must be replaced with an unthreaded sample tap to avoid potential cross-connections.	B	September 10, 2022	
Oct 2018	***Storage Tank Inspections:*** By Directive 6 of the Citation 02_05_21C_030, Big Basin WC was directed to submit by December 31, 2021, an O&M Plan including a schedule of routine tank inspections and procedures for tank cleaning. Division has not received the required plan.	A	**OVERDUE** Refer to Citation 02_05_21C_030 Directive 6	
CROSS CONNECTION CONTROL PROGRAM				
June 2022	***Cross Connection Control Survey***: Big Basin WC must submit a copy to the Division of the cross-connection control survey done on the system on June 8, 2020, as per 2020 Annual Report.	N/A	July 31, 2022	
June 2022	***Backflow Prevention Assembly Inventory and 2021 Testing Reports:*** Big Basin WC must submit to the Division their current backflow prevention assembly inventory and record of 2021 testing for all backflow assemblies in the service area. Failure to send backflow testing records will result in enforcement from the Division.	A	June 30, 2022	
OTHER				
Jun 2022	***2021 Consumer Confidence Report:*** As per Citation 02_05_21C_047, Directive 1, Big Basin WC was required to submit the draft 2021 CCR to the Division for Review **by June 1, 2022**.	N/A	**OVERDUE**	
Jun 2022	***2021 Electronic Annual Report:*** It was due by May 21, 2022.	C	**OVERDUE**	
Jun 2022	***Emergency Notification Plan (ENP):*** As per 2020 Annual Report the ENP is not up to date. Big Basin WC must provide the Division with an updated Emergency Notification Plan using the form included in **Attachment C** of this report.	C	July 10, 2022	
Oct 2018	***Customer Complaint Program:*** As required by CO 02_05_21R_001, Directive 4 and Citation 02_05_21C_030, Directive 6, Big Basin WC failed to submit the O&M Plan, including a plan and procedures for responding to water system emergencies and power	A	**OVERDUE** Refer to Citation 02_05_21C_030 Directive 6	

Date Found	Description of Deficiency	Order of Hazard	Date to Address Deficiency	Date Corrected
	outages, customer complaints, etc. Big Basin WC has failed to submit the required O&M Plan for the system.			
Oct 2018	***Auxiliary Power Supply:*** Big Basin WC failed to submit a O&M Plan which also includes a power outage response plan as per Directive 6 of Citation 02_05_21C_030.	A	**OVERDUE** Refer to Citation 02_05_21C_030 Directive 6	
DISTRIBUTION SYSTEM MONITORING				
June 2022	***Chlorine Residual Monitoring***: Big Basin WC must submit the **Attachment B**, Quarterly summary of the chlorine residual in the distribution system by the 10th day of the month following each calendar quarter.	C	July 10, 2022, and then by the beginning of each calendar quarter.	
RESILIENCY AND PREPAREDNESS				
Oct 2018	***Alternative or backup energy supply –*** Back up power generators are not available at well and all booster stations, except Tradewinds Booster Station.	N/A	Refer to Auxiliary Power Supply deficiency above.	
June 2022	***Interconnection with other utilities (transfers, mutual aid agreements with neighboring utilities) –*** Big Basin WC does not have an interconnection with neighboring utilities.	N/A	**OVERDUE** Refer to Citation 02_05_21C_030 Directive 1	
June 2022	***Relocate facilities, construct, or install redundant facilities –*** Big Basin WC reported in 2020 Annual Report that they are in progress, but no relocated or redundant facilities found during the 2022 sanitary survey or reported to the Division.	N/A	**OVERDUE** Refer to Citation 02_05_21C_030 Directives 1, 3, and 4	
June 2022	***Conservation measures (demand management, enhanced communication and outreach) –*** Big Basin WC reported in 2020 Annual Report that they plan to implement conservation measures, however, none are reported to the Division.	N/A	**OVERDUE** since June 21, 2022. Must be reported in 2021 Annual Report.	
June 2022	***Fire prevention (brush management, partnerships) –*** Big Basin WC reported in 2020 Annual Report that they plan to implement fire prevention. However, none was reported to the Division or observed during the 2022 sanitary survey.	N/A	**OVERDUE** Refer to Citation 02_05_21C_030 Directive 6	

2022 SANITARY SURVEY – LIST OF RECOMMENDATIONS

Description of Recommendation	Recommended Date to Address Recommendation
Photos – Hill House and Bloom Grade tanks were not inspected during this sanitary survey as the water system did not identify as ones of its current storage tanks. If the tanks are in service, Big Basin WC must submit recent photos showing tank interior and exterior conditions, and all external features, including locked and closed access hatches, open access hatches, access ladders, vent screens, overflows, drains, sample taps, inlets and outlets, interior water quality, interior coating, and roof exterior paint. Please **confirm** in writing if the tanks are not in service.	July 31, 2022 (not a recommendation)
Records: The Division does not have any information on Big Basin WC's current data retention program. To complete this sanitary survey report, Big Basin WC must provide information to the Division on the current record retention practices including methods and duration for all water quality monitoring data and all operational record of preventative maintenance programs including system flushing, valve exercising, and full tank inspections.	July 31, 2022 (not a recommendation)
Recommendations Not Completed from 2018 Sanitary Survey	
Robin Hood Tank Foundation: As noted in the 2018 Sanitary Survey Report, the cement foundation is in poor condition. A section of the dirt under the foundation washed away. The Division recommends a registered civil engineer with experience in tank foundations evaluate the current condition of the foundation and identify necessary improvements.	As budget allows
Hill House Tank Foundation: The polyethylene tank does not have a foundation. As the budget allows, a more permanent foundation with seismic restraints should be installed.	As budget allows, if the tank wasn't destroyed in the 2020 CZU Lightning Fire, and still exist as a part of the water system.
Hill House Tank Fence: The tank site is not fenced. The Division recommends the site is fenced.	As budget allows, if the tank still exists as a part of the water system
Bloom Grade Tank Fence: The tank site is not fenced. The Division recommends the site is fenced.	As budget allows, if the tank still exists as a part of the water system.87.0
Operator Staffing: According to Big Basin WC, the water system is not adequately staffed. The Division recommends Big Basin WC add additional certified operators to ensure coverage at the treatment plant and to complete preventative maintenance (valve exercise, dead end flushing), etc.	As budget allows
Emergency Response Plan: As proposed in Section 4.11 of the Big Basin WC's response letter dated March 3, 2019, an Emergency Response Plan should be completed in 2022. Templates and references are available online at: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Security.html	2022

Attachment B

Quarterly Disinfectant Reporting Form

State of California
Division of Drinking Water

State Water Resource Control Board

Quarterly Report for Disinfectant Residuals Compliance For Systems Using Chlorine or Chloramines

0363

System Name: _____ System No.: _____ Year: _____ Quarter: _____

Year:	2018					2019					2020					2021					2022				
Month	# of Samples	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	# of Samples	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	# of Samples	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	# of Samples	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	# of Samples	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
January																									
February																									
March																									
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May																									
June																									
July																									
August																									
September																									
October																									
November																									
December																									
Quarterly Average																									
Running Annual Average (RAA)																									
Meets Standard? (i.e. RAA ≤ MRDL of 4.0 mg/L as Cl_2)		Yes☐ No☐	Yes☐ No☐	Yes☐ No☐	Yes☐ No☐		Yes☐ No☐	Yes☐ No☐	Yes☐ No☐	Yes☐ No☐		Yes☐ No☐	Yes☐ No☐	Yes☐ No☐	Yes☐ No☐		Yes☐ No☐	Yes☐ No☐	Yes☐ No☐	Yes☐ No☐		Yes☐ No☐	Yes☐ No☐	Yes☐ No☐	Yes☐ No☐

Comments:

_____
Signature

_____
Date

Attachment C

Emergency Notification Plan Form

State Water Resources Control Board

Division of Drinking Water

WATER QUALITY EMERGENCY NOTIFICATION PLAN

Name of Utility/System No.: _____

Physical Location/Address: _____

The following persons have been designated to implement the plan upon notification by the State Water Resources Control Board (SWRCB) that an imminent danger to the health of the water users exists:

Water Utility: Contact Name & Title	Email Address	Telephone Day	Evening	Cell
1.				
2.				
3.				

The implementation of the plan will be carried out with the following State Water Resources Control Board and County Environmental Health Department personnel:

	Division of Drinking Water Contacts	Telephone Work	After-Hours
1.	Monterey District Office	(831) 655-6939	
2.	Jonathan Weininger, District Engineer	(831) 655-6932	(831) 595-0058
3.	Querube Moltrup, Associate Sanitary Engineer	(831) 655-6936	
4.	Shaminder Kler, Associate Sanitary Engineer	(831) 655-6938	
5.	Kyle Graff, Water Resource Control Engineer	(831) 655-6935	
6.	Anna Snyder, Water Resource Control Engineer	(831) 655-6934	
7.	Nicholas Garibaldi, Water Resource Control Engineer	(831) 655-6943	
8.	Lora Lyons, Environmental Scientist	(831) 655-6942	
	Santa Cruz County Environmental Health Contact		
9.	Nathan Salazar	(831) 359-0856	(831) 345-1382

If the above personnel cannot be reached, contact:

Office of Emergency Services Warning Center (24 hrs) (800) 852-7550

When reporting a water quality emergency to the Warning Center, please ask for the State Water Resources Control Board – Drinking Water Program Duty Officer.

NOTIFICATION PLAN

On form included, provide a written description of the method or combination of methods to be used (radio, television, door-to-door, sound truck, etc.) **to notify customers in an emergency.** For each section of your plan give an estimate of the **time required, necessary personnel, estimated coverage,** etc. Consideration must be given to special organizations (such as schools), non-English speaking groups, and outlying water users. Ensure that the notification procedures you describe are practical and that you will be able to actually implement them in the event of an emergency. Examples of notification plans are attached for large, medium, and small communities.

Report prepared by:

_____ _____

Signature and Title Date

WATER QUALITY EMERGENCY NOTIFICATION PLAN:

Please describe your water system's plan for emergency notification to all water users:

Date: _____

Report Prepared by: _____

Name of utility or water system: _____

(EXAMPLE) PLAN I (Medium Community)

During regular working hours our people will contact the news media at television station KXYZ to broadcast the necessary warning. The local radio stations will also be contacted. The television and radio personnel are available at all hours. As a follow-up measure, we will also contact the Daily Bee, a local newspaper that serves both Ourtown and Hometown.

The warnings will be issued in both English and Spanish to cover all members of the community. Outlying areas of the water service area (such as Isolated Canyon and Lonesome Mountain subdivisions) will also be notified by sound truck and/or handbill distributed to their respective areas. Both of these areas are very small, and this can be done quite quickly.

A special telephone answering service can also be quickly set up at the utility headquarters (using the regular company numbers) to answer questions that will come in from consumers. Questions are anticipated, especially from the Hometown area, because that area is served by three different water companies. A map will be available to the telephone answering personnel to determine the water company serving the caller.

It is anticipated that the time for notification to the television and radio audiences will be very short. The areas served by handbill and sound truck will also be notified within an hour. For notification to be issued in other than normal hours, the same media will be contacted, and an announcement will be scheduled for as long as is necessary. A sound truck(s) will be used in the early morning hours to quickly alert the people not listening to their radio or television.

(EXAMPLE) PLAN II (Small Community)

Our community is very small and the most efficient means of notification will be both sound truck and handbill. It is estimated that the entire service area can be covered in less than three hours.

(EXAMPLE) PLAN III (Large Community)

The same plan as implemented in Plan I should be used here with the exceptions noted. All the news media will be contacted in the entire metropolitan area. This includes all television and radio stations and all local and general area newspapers. Maps have been prepared to be distributed to the media to locate the boundaries of the water company. This system is large enough that it may only be necessary to notify some of the water users. This information will be transmitted to the media and an answering service at the water company will respond to consumers' calls. Unless the problems are limited to isolated areas it is unreasonable to assume that contact can be made through sound truck or handbill.

Attachment D

Stage 2 DBPR Compliance Monitoring Plan Template

STAGE 2 DISINFECTION BYPRODUCT RULE (DBPR)
COMPLIANCE MONITORING PLAN
SCHEDULE 4 – GROUNDWATER SYSTEMS (Population 500 – 9,999)

Water System Name/ Number: _____

Population Served: _____ Residual Disinfectant Type: _____

Part 1: Site Justification: The system must select **2 compliance monitoring sites** for TTHM and HAA5 samples. The minimum sampling frequency is 2 dual sample sets per year. One site must be at the location of highest TTHM concentration and one site must be at the location of highest HAA5 concentration.

Site No.	Stage 2 Compliance Monitoring Site Address	Site Type (check one)	Site Justification
1		__Highest TTHM __Highest HAA5 __Representative of Service Area __Other (Water age, residence time, low residual, etc.)	
2		__Highest TTHM __Highest HAA5 __Representative of Service Area __Other (Water age, residence time, low residual, etc.)	

Part 2: Proposed Stage 2 DBPR Compliance Monitoring Schedule:

Peak Historical Month: _____ Justification for Peak Historical Month: _____
(e.g., warmest water temperature or highest DBP concentrations)

Yearly Sampling Date (during peak historical month): _____ (Day of the month, or Week) (e.g., 1st week of peak historical month, or 1st Tuesday of peak historical month)

Part 3 Compliance Calculation:

Compliance is determined by the result of the annual sample at each sampling location. The system is in compliance if sample result < MCL for each location.

Part 4: Required Attachments:

- Attach a schematic of your distribution system including all storage tanks, water treatment plants, disinfection facilities, etc. Please clearly identify each Stage 2 DBPR monitoring site.
- **Optional:** Any additional supporting documentation.

Part 5: Certification:

_____ _____ _____

Name (print) Title Signature Date

EXHIBIT Q

State Water Resources Control Board

Division of Drinking Water

June 16, 2022

Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
bbwater197@yahoo.com

Dear Jim Moore:

2022 SANITARY SURVEY SIGNIFICANT DEFICIENCY
BIG BASIN WATER COMPANY (SYSTEM NO. 4410001)

On February 10, 2022, Damian Moore and you accompanied Rick Rogers, James Furtado and Nate Gillespie of San Lorenzo Valley Water District and staff from the State Water Resources Control Board – Division of Drinking Water (Division) on a sanitary survey of the Big Basin Water Company's (Big Basin) water system. During the sanitary survey, the Division identified one significant deficiency, which is explained below:

Oberst Finished Water Storage Tank

The Oberst Tank is an aged 5,000-gallon welded steel storage tank. The interior and exterior of the tank are severely corroded. The tank sidewall has two holes that can potentially provide pathways to contaminants to the tank interior. Additionally, Large rust nodules were observed attached to the tank sidewall. The corrosion presents a sanitary and structural risk. Photographs showing the tank holes and exterior condition are enclosed with this letter.

Big Basin must notify the Division by **July 11, 2022,** if the significant deficiency has been resolved and submit a corrective action plan along with the corrective action deadlines for the significant deficiency that need more time to be corrected. Nonetheless, the significant deficiency must be resolved by **August 26, 2022**.

If you have any questions or concerns, please contact the Division at DWPDIST05@waterboards.ca.gov or (831) 655-6939.

Sincerely,

Jonathan Weininger Digitally signed by Jonathan Weininger
Water Boards Date: 2022.06.16 11:55:16 -07'00'

Jonathan Weininger, P.E.
District Engineer, Monterey District
Division of Drinking Water

Enclosures: 2022 Sanitary Survey Photos of Oberst Tank

cc: Santa Cruz County Environmental Health Services
Marilyn Underwood, Marilyn.Underwood@santacruzcounty.us
Nathan Salazar, Nathan.Salazar@santacruzcounty.us
Sierra Ryan, Sierra.Ryan@santacruzcounty.us

California Public Utilities Commission (CPUC) Water Division
Water.Division@cpuc.ca.gov
Moises Chavez, moises.chavez@cpuc.ca.gov
Wilson Tsai, wilson.tsai@cpuc.ca.gov

Rick Rogers, San Lorenzo Valley Water District, rrogers@slvwd.com

Oberst Tank Photos

Holes in the Tank Sidewall

Enlarged Image of Tank Sidewall Holes

Corrosion and Leaks in the Tank Sidewall

EXHIBIT R

State Water Resources Control Board
Division of Drinking Water

September 22, 2022

System No. 4410001

Jim Moore, Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
bbwater197@yahoo.com

CITATION NO. 02_05_22C_060

- **FAILURE TO PROVIDE A RELIABLE SUPPLY OF POTABLE WATER**
- **FAILURE TO COMPLY WITH COMPLIANCE ORDER NO. 02_05_21R_001 AND CITATION NO. 02_05_21C_030**
- **FAILURE TO PROVIDE BACKUP POWER AT WELL 4**

Enclosed is Citation No. 02_05_22C_060 (Citation), issued to the Big Basin Water Company (Big Basin WC) public water system. Please note that there are legally enforceable deadlines associated with this Citation.

***This Citation imposes an administrative penalty in the amount of $12,500; however, that penalty has been suspended and will only become due if Big Basin WC fails to comply with any of the directives set forth in the Citation by the deadlines indicated*.**

Big Basin WC will be billed at the State Water Resources Control Board's (State Water Board) hourly rate for the time spent on issuing this Citation. California Health and Safety Code (Health & Saf. Code) section 116577 provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including preparing, issuing and monitoring compliance with a citation. Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on Big Basin WC for the current fiscal year.

A process exists by which a public water system can petition the State Water Board for reconsideration of this compliance order. Petitions sent to the State Water Board "shall include the name and address of the petitioner, a copy of the order or decision for which the petitioner seeks reconsideration, identification of the reason the petitioner alleges the issuance of the order or decision was inappropriate or improper, the specific action the petitioner requests, and other information as the state board may prescribe. The petition must be accompanied by a statement of points and authorities of the legal issues raised by the petition." (Health & Saf. Code, § 116701, subd. (b).)

Petitions must be received by the State Water Board within 30 days of the issuance of this compliance order by the State Water Board. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m. Information regarding filing petitions may be found at:

Drinking Water Petitions for Reconsideration
https://www.waterboards.ca.gov/drinking_water/programs/petitions/instructions.html

If you have any questions regarding this matter, please contact the Division of Drinking Water at dwpdist05@waterboards.ca.gov or (831) 655-6939.

Sincerely,

Jonathan Weininger
Water Boards
Digitally signed by Jonathan Weininger
Date: 2022.09.22 14:27:42 -07'00'

Jonathan Weininger, PE
District Engineer, Monterey District
Division of Drinking Water

Enclosures

Certified Mail No. 7021-0950-0000-7399-9605

cc: Santa Cruz County Environmental Health Services
Marilyn Underwood, Marilyn.Underwood@santacruzcounty.us
Nathan Salazar, Nathan.Salazar@santacruzcounty.us
Sierra Ryan, Sierra.Ryan@santacruzcounty.us

Santa Cruz County Board of Supervisors,
BoardOfSupervisors@santacruzcounty.us

Santa Cruz County Supervisor Bruce McPherson's Office
Fifth.District@santacruzcounty.us, jm.brown@santacruzcounty.us

California Public Utilities Commission (CPUC) Water Division
Moises Chavez, moises.chavez@cpuc.ca.gov
Wilson Tsai, wilson.tsai@cpuc.ca.gov
Bruce Deberry, bruce.deberry@cpuc.ca.gov

Citation No. 02_05_22C_060

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Name of Public Water System: Big Basin Water Company

Water System No: 4410001

Attention: Jim Moore, Manager

PO Box 197

Boulder Creek, CA 95006

Issued: September 22, 2022

CITATION FOR NONCOMPLIANCE

FAILURE TO PROVIDE A RELIABLE SUPPLY OF POTABLE WATER

FAILURE TO PROVIDE BACKUP POWER AT WELL 4

FAILURE TO COMPLY WITH COMPLIANCE ORDER NO. 02_05_21R_001 AND CITATION NO. 02_05_21C_030

Section 116650 of the California Health and Safety Code authorizes the State Water Resources Control Board (State Water Board), to issue a citation to a public water system when the State Water Board determines that the public water system has violated or is violating the California Safe Drinking Water Act (California SDWA) (Health & Saf. Code, division 104, part 12, chapter 4, commencing with section 116270), or any regulation, standard, permit, or order issued or adopted thereunder.

The State Water Board, acting by and through its Division of Drinking Water (Division), and the Deputy Director for the Division, pursuant to section 116650 of the Health and Safety Code, hereby issues Citation No. 02_05_22C_060 (Citation), to the Big Basin Water Company (Big Basin WC), for violation of Compliance Order No. 02_05_21R_001 and Citation No. 02_05_21C_030, and for violation of Health and Safety Code section 116555 and section 64602 of title 22 of the California Code of Regulations.

STATEMENT OF FACTS

Big Basin WC is classified as a community water system and serves a population of 1,120 through 482 connections (information from the 2020 Electronic Annual Report to the Division of Drinking Water (EAR)). The population and service connections listed in the 2020 EAR reflect reduced numbers following the August 2020 CZU Lightning Complex Fire, which destroyed or damaged a portion of Big Basin WC's customer connections. Big Basin WC operates under Domestic Water Supply Permit No. 02-05-44-94P-001, issued by the State Water Board on February 11, 1994.

On April 9, 2021, the State Water Board issued Compliance Order No. 02_05_21R_001 for noncompliance with California Code of Regulations, title 22, section 64554(a)(2) and Health and Safety Code, section 116555 (a)(3); and failure to comply with the 2018 Sanitary Survey Deficiency List. On October 28, 2020, the State Water Board issued Citation No. 02_05_21C_030 for noncompliance with Compliance Order No. 02_05_21R_001 and Citation No. 02_05_21C_021.

Big Basin WC has not provided the following items required in previous enforcement actions, and most recently described in Citation No. 02_05_21C_030:

- By December 31, 2021, completion of a temporary or permanent approved water supply source, as described in Directive 1 of Citation No. 02_05_21C_030.

- By December 31, 2021, a compliance action plan for replacing the pumps and appurtenances at the Galleon Heights booster station, as described in Directive 2 of Citation No. 02_05_21C_030.
- By December 31, 2021, a permit amendment application package requesting to add at least one additional permanent water source, in accordance with Directive 3.
- By December 31, 2021, a compliance action plan for adding additional source capacity, removing and replacing all fire damaged infrastructure, and an analysis of Big Basin WC's financial capacity to complete the projects, in accordance with Directive 4.
- By December 31, 2021, a schedule for completing the corrective actions identified in Big Basin WC's March 3, 2019 response to the 2018 sanitary survey letter, in accordance with Directive 5.
- By December 31, 2021, a Water System Operations and Maintenance Plan in accordance with Directive 6.
- Monthly progress reports to the State Water Board in accordance with Directive 7 of Compliance Order No. 02_05_21R_001.

This citation specifically addresses the noncompliance with Directive 6 of Citation No. 02_05_21C_030

Health & Safety Code, section 116555, subdivision (a)(3) requires any person who owns a public water system to ensure that the system provides a reliable and adequate supply of pure, wholesome, healthful, and potable water.

California Code of Regulations, title 22, section 64602 states that each distribution system must be operated in a manner to assure that a minimum operating pressure in

the water main at the user service line connection throughout the distribution system is not less than 20 pounds per square inch at all times.

The State Water Board has been made aware of recurring water outages that occur during power outages due to the lack of backup power at Big Basin WC's sole water source, Well 4. On July 21, 2022, the State Water Board received a customer complaint notifying the State Water Board about frequent water outages. On July 24, 2022, Big Basin WC issued a precautionary boil water notice and on July 26, 2022, by email, Big Basin WC stated: "About 25 homes were effected by the 2 hour power outage. Kler new we were working on the the problem. He told Jim to do the boil water notice. Yes everyone has water now. Jim hand delivered the notice to every customer effected. I also told anyone that called about outage or low pressure to boil water."

In a phone conversation with the Jonathan Weininger of the State Water Board on July 27, 2022, Jim Moore of Big Basin WC described to the State Water Board that during power outages, Well 4 cannot pump and the Well 4 tank quickly runs dry, which leads to water outages in the higher elevations of the distribution system. By email dated July 29, 2022, in response to the State Water Board's inquiry about the status of installing a generator at Well 4, Shirley Moore of Big Basin WC stated "We are also trying to rent one. Until we buy one." When asked for a timeline by the State Water Board, Shirley Moore responded "As soon as we can locate one."

On August 23, 2022, the State Water Board sent an email to Big Basin WC requesting an update about the installation of a generator at Well 4. Big Basin WC did not respond.

On August 31, 2022, the State Water Board sent an email to Big Basin WC requesting an update about the installation of a generator at Well 4. Big Basin WC did not respond.

On September 15, 2022, after a customer complaint of a water outage in the Tradewinds / Galleon Heights pressure zone, the State Water Board sent an email to Big Basin WC requesting an update about the installation of a generator at Well 4. Jim Moore of Big Basin WC responded by email dated September 15, 2022: “Generator is on back order, hopefully soon.”

DETERMINATION

The State Water Board has determined that Big Basin WC has failed to comply with Directive 4, due July 10, 2022, of Compliance Order No. 02_05_21R_001, dated April 9, 2021, and Directive 6, due December 31, 2022, of Citation No. 02_05_21C_030, dated October 28, 2021, and Health and Safety Code, section 116555, subdivision (a)(3) and California Code of Regulations, title 22, section 64602 by not having backup power installed at Big Basin WC’s sole water source, Well 4, and therefore not providing a reliable supply of potable water and not assuring that the minimum operating pressure in the water main at the user service line connection throughout the distribution system exceeds 20 pounds per square inch at all times.

PENALTY PURSUANT TO HEALTH AND SAFETY CODE SECTION 116650

The State Water Board hereby assesses upon Big Basin WC an administrative penalty in the amount of **$12,500.** This penalty, however, has been suspended and will only come due on October 21, 2022, if Big Basin WC fails to comply with this citation by the deadlines indicated herein to the satisfaction of the State Water Board. As this penalty can be avoided only through compliance with this citation, it is especially important for Big Basin WC to adhere to the deadlines in this citation. The State Water Board will inform Big Basin WC by letter that the suspension of the penalty has been revoked and the penalty is due by October 21, 2022, should Big Basin WC fail to meet the deadlines in this citation.

DIRECTIVES

Big Basin WC is hereby directed to take the following actions:

1. By **October 21, 2022**, install a generator at the Well 4 site and provide the State Water Board with proof that the generator is installed and ready to operate. The generator must be sized to fully power Well 4 and the onsite chlorinator, and Big Basin WC must provide proof that adequate fuel is stored and available for sustained power outages. Proof of installation must include photos or video of the generator installed at the Well 4 site and of fuel storage; and written correspondence certifying installation and terms of the rental agreement or ownership.

2. By **October 21, 2022**, submit to the State Water Board for review and approval a Water System Operations and Maintenance Plan (O&M plan) pursuant to section 64600 of title 22 of the California Code of Regulations. The O&M plan must include the following elements:
    a. A plan and procedures for responding to water supply emergencies, which also includes a power outage response plan that describes how Big Basin WC will supply water during a power outage. As a minimum, the power outage response plan must include the following items:
        i. Preparation protocol for an anticipated, planned power shutoff including filling storage tanks, site visits, water conservation notification, etc.
        ii. Identification of critical sites requiring backup power to supply all pressure zones with a system pressure no less than 20 psi during a power outage.
        iii. Documentation demonstrating ownership and/or rental contracts to obtain backup power at Well 4 and other identified critical sites

before a planned power outage and at the onset of an unplanned power outage.

iv. The process for transporting and installing portable backup power during a power outage at the locations identified as critical for sustained operation in all pressure zones but do not have on-site back power generators.

v. Contact information for neighboring water systems, the State Water Board, Santa Cruz County Environmental Health, emergency response networks, and other contacts needed during a power outage.

vi. The procedure for initiating and distributing public notification with State Water Board review and approval and in accordance with sections 64663 and 64665 of title 22 of the California Code of Regulations.

b. An operations and maintenance schedule for Well 4 and the chlorination system;
c. A schedule and procedure for flushing dead end mains, and procedures for disposal of the flushed water including dechlorination;
d. A schedule for routine inspection of tanks, and procedures for cleaning tanks;
e. A schedule and procedures for inspecting, repairing, and replacing water mains;
f. A plan and procedures for responding to consumer complaints;
g. A schedule and procedures for routine exercising of water main valves;
h. A schedule and program for maintenance and calibration of source flow meters and other online instruments used to determine the quality or quantity of water;

i. The qualifications and training of operating personnel;

3. Submit to the State Water Board by **November 19, 2022**, a check for the administrative penalty of **$12,500** imposed by this Citation and a copy of the form, which is attached as Appendix 4, hereto entitled "Notice of Administrative Penalty." The Citation number must be written on the check. The check must be made payable to the **State Water Resources Control Board** and submitted to:

SWRCB Accounting Office
ATTN: Drinking Water Program Fees
P.O. Box 1888
Sacramento, CA 95812-1888

The State Water Board will send a letter to Big Basin WC following the expiration of the substantive due dates set forth in this citation, in which it will either make permanent the suspension of these penalties due to Big Basin WC's compliance with this citation, in which case no penalty would be due, or will revoke the suspension of the penalties at which point they will be due in full as set forth in this citation.

All submittals required by this Citation, unless otherwise specified in the directives above, must be electronically submitted to the State Water Board at the following address. The subject line for all electronic submittals corresponding to this Citation must include the following information: Water System name and number, citation number and title of the document being submitted.

Jonathan Weininger, Monterey District Engineer
Dwpdist05@waterboards.ca.gov

The State Water Board reserves the right to make modifications to this Citation as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Citation and shall be effective upon issuance. Nothing in this Citation relieves Big Basin WC of its obligation to meet the requirements of the California SDWA (Health & Saf. Code, division 104, part 12, chapter 4, commencing with section 116270), or any regulation, standard, permit or order issued or adopted thereunder.

PARTIES BOUND

This Citation shall apply to and be binding upon Big Basin WC, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

SEVERABILITY

The directives of this Citation are severable, and Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the

State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Citation.

Stefan Cajina

Digitally signed by Stefan Cajina
Date: 2022.09.22 14:54:30 -07'00'

Stefan Cajina, P.E., Chief
North Coastal Section
State Water Resources Control Board
Division of Drinking Water

September 22, 2022
Date

Appendices (1):

1. Notice of Administrative Penalty Form

Certified Mail No. 7021-0950-0000-7399-9605

APPENDIX 1 - NOTICE OF ADMINISTRATIVE PENALTY FORM

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Notice of Administrative Penalty

System Name: Big Basin Water Company

System Number: 4410001

Background

On September 22, 2022, the State Water Resources Control Board, Division of Drinking Water issued Citation 02_05_22C_060 to the Big Basin Water Company. The Citation carried a civil penalty in the amount of **$12,500**.

Method of Payment

A check for the total amount of the civil penalty and a copy of this form must be submitted to the State Water Board by **November 19, 2022**. The Citation number must be written on the check, the check made payable to the **State Water Resources Control Board**, and submitted to:

SWRCB Accounting Office
ATTN: Drinking Water Program Fees
P.O. Box 1888
Sacramento, CA 95812-1888

Attach check below:

EXHIBIT S

State Water Resources Control Board
Division of Drinking Water

October 21, 2022

System No. 4410001

Shirley Moore, Office Manager
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
bbwater197@yahoo.com

Dear Shirley Moore:

PERMANENT SUSPENSION OF CITATION NO. 02_05_22C_060 ADMINISTRATIVE PENALTIES

On September 22, 2022, the State Water Resources Control Board, Division of Drinking Water (Division) issued Citation No. 02_05_22C_060 to Big Basin Water Company (Big Basin WC), which also assessed an administrative penalty in the amount of $12,500. The penalty had been suspended to only come due on October 21, 2022 if Big Basin WC fails to comply with Citation No. 02_05_22C_060 by the deadlines to the satisfaction of the State Water Board.

Based on a response letter dated September 29, 2022, submitted by Big Basin WC on October 3, 2022, the Division has determined that Big Basin WC has substantially complied with Citation 02_05_22C_060 directives, and accordingly, pursuant to the terms of that Citation, the penalty issued to Big Basin WC in the Citation is permanently suspended. Big Basin WC therefore does not owe any penalty to the Division pursuant to Citation 02_05_22C_060.

If you have any questions, please contact the Division of Drinking Water at dwpdist05@waterboards.ca.gov or (831) 655-6939.

Sincerely,

Jonathan Weininger

Digitally signed by Jonathan Weininger
Date: 2022.10.21 12:41:16 -07'00'

Jonathan Weininger, PE
District Engineer, Monterey District
Division of Drinking Water

Enclosures: Big Basin WC Response Letter Dated September 29, 2022

cc: Santa Cruz County Environmental Health Services
Marilyn Underwood, Marilyn.Underwood@santacruzcounty.us
Nathan Salazar, Nathan.Salazar@santacruzcounty.us
Sierra Ryan, Sierra.Ryan@santacruzcounty.us

Santa Cruz County Board of Supervisors,
BoardOfSupervisors@santacruzcounty.us

Santa Cruz County Supervisor Bruce McPherson's Office
Fifth.District@santacruzcounty.us, jm.brown@santacruzcounty.us

California Public Utilities Commission (CPUC) Water Division
Moises Chavez, moises.chavez@cpuc.ca.gov
Wilson Tsai, wilson.tsai@cpuc.ca.gov
Bruce Deberry, bruce.deberry@cpuc.ca.gov

Big Basin Water

P.O. Box 197

Boulder Creek CA 95006

831-818-4477

Sept. 29, 2022

Jonathan,

Citation 02-05-22c-060

We have a 45K portable generator on site at well #4. This will run our 30HP 100-amp pump and one 20-amp breaker for cl2. This same generator will be towed to Branson Ranch and Camino booster stations to power all critical areas. That is the best we can do under our current rates.

We are working with Earth Flow and CAWA to obtain funding and to drill another well. We will update you when we have our permit.

Please be aware that there is no way to prevent leaks There will always be power outages beyond our control as we see during natural disasters. We have Damian volunteering his time to be on call to address any issues as they arise. Overtime is not in our rates, nor is there the ability to have an emergency account. See our profit and loss report for last year.

In the interest of public health, we ask you to waive all fines as all of violations were directly related to lack of money. We will serve our customers better and safer if we can spend the little money, we do bring in on addressing the issues you bring up.

We will do our very best to comply with all violations within our financial capabilities, but rate cases are a lengthy process we don't completely control. We are shutting down leaky valves and pumps at Gallion booster station for the time being as other violations are an obvious priority. Gallion will be overhauled when grant money or rates allow it.

O and M Plan

a) i. Tanks are checked upon notice of PPO and at the time of unplanned power outages.

ii. Well #4. Branson Ranch and Camino Verde powered by portable 45kw Gallion generator is on site.

iii. Generator is mutual aid from SLV Water.

iv. A truck will tow the portable 45 kw to each critical site.

v. James Furtado from SLV water 831-246-1744

SCEH 831-454-2022, BC Fire Chief 831-234-5206

vi. Signage, social media and or door postings.

b) Well #4 Cl2 maintenance*

3 daily residual and operation checks

Feeder tubes flushed as needed

c) Flushing done annually in the spring. Decolonization method will be By SLV water 1 dead end at coffeeberry.

d) Tanks are visually inspected weekly by staff. Please advise us on a Cleaning schedule that meets your requirements.

e) Mains are inspected when exposed for repair. No money for replacement program currently. All repairs are done by staff as soon as possible.

F) Office will take water quality complaints and record them for staff for resolution.

G) Valves are exercised annually unless used to isolate a repair.

H) Well #4 flow meter is checked daily, read monthly and calibrated annually (Not a year old yet) Method of calibration yet to be determined.

i) Damian Moore T2 23880 and D3 21734

Jim Moore civil engineer

Shirley Moore Office


GT2418
GENERAC
MOBILE
45

BIG BASIN WATER COMPANY
Profit & Loss
January through December 2021

		Jan - Dec 21
Ordinary Income/Expense		
Income		
400 · Operating revenues		322,498.74
460.1 · Residential single-family multi		480.20
470 · Metered water revenue		
470.5 · Safe drinking water bond surchg	29,144.44	
Total 470 · Metered water revenue		29,144.44
Total Income		352,123.38
Gross Profit		352,123.38
Expense		
Taxes other than income taxes		
408.3 · Other Taxes and licenses		
408.1 · Property Taxes	5,065.01	
408.2 · Payroll Taxes	28,464.79	
Total 408.3 · Other Taxes and licenses	33,529.80	
Total Taxes other than income taxes		33,529.80
Timber Credit		0.00
403 · Depreciation Expense		11,305.00
407 · SDWBA Loan Amortization		34,499.00
409 · State corporate income tax		800.00
427 · Interest expense		
427.1 · Interest on Other Liab	1,032.33	
427 · Interest expense - Other	18,875.55	
Total 427 · Interest expense		19,907.88
615 · Power		48,509.78
630 · Employee Labor		88,622.09
640 · Materials		31,556.20
650 · Contract Work		11,000.00
660 · Transportation Expense		
660b · Fuel	7,132.25	
660 · Transportation Expense - Other	2,400.28	
Total 660 · Transportation Expense		9,532.53
66000 · Payroll Expenses		0.00
664 · Other Plant Maintenance		112,926.81
66900 · Reconciliation Discrepancies		-0.50
671 · Management Salaries		134,661.96
674 · Employee Pension & Benefits		45,981.92
678 · Office Services & Rentals		4,018.77
681 · Office Supplies & Expenses		11,329.85
682 · Professional Services		3,060.00
684 · Insurance		32.58
688 · Regulatory Compliance Expense		13,615.53
689 · General Expenses		1,039.37
690 · Testing		2,215.50
Total Expense		618,144.07
Net Ordinary Income		-266,020.69

BIG BASIN WATER COMPANY
Profit & Loss
January through December 2021

	Jan - Dec 21
Other Income/Expense	
Other Income	
421 · Non-utility income	
interest income	35.10
421 · Non-utility income - Other	138,152.96
Total 421 · Non-utility income	138,188.06
Total Other Income	138,188.06
Other Expense	
426 · Misc. non-utility expense	4,017.79
Total Other Expense	4,017.79
Net Other Income	134,170.27
Net Income	**-131,850.42**

EXHIBIT T

From:	Denise Bukowski
To:	Garvin, Cosmo@Waterboards; Melendez, Ana@Waterboards
Cc:	Kler, Shaminder@Waterboards; Weininger, Jonathan@Waterboards; Deryk Bukowski
Subject:	lack of water in neighborhood
Date:	Sunday, June 27, 2021 3:34:58 PM

EXTERNAL:

To CA State waterboard,

We live at 303 Crows Nest Drive in Boulder Creek, of Santa Cruz County. No water has come out of our spigots for the past 2-3 hours (starting at 1:15pm this afternoon). This is the second time in 14 days where water has halted for several hours, and has impacted all 39 homes of the Galleon Heights neighborhood. We are serviced by Big Basin Water.

Can we please get state help to alleviate this problem that keeps occurring under the Big Basin Water system?

Best regards,

Denise & Deryk Bukowski

Denise Bukowski, [redacted]

Deryk Bukowski, [redacted]

303 Crows Nest Drive
Boulder Creek, CA 95006

From:	Kler, Shaminder@Waterboards
To:	gmcguy[redacted]
Cc:	Weininger, Jonathan@Waterboards
Subject:	FW: Big basin water
Date:	Friday, October 1, 2021 8:53:00 AM

Hello,

Could you please provide more information on your address and the number you called the Big Basin Water Company that is invalid?

Thanks,

Shaminder Kler, P.E.
Associate Sanitary Engineer
SWRCB Division of Drinking Water – Monterey District
ph: 831-655-6938 fax: 831-655-6944

From: WB-DWPDIST05 <DWPDIST05@waterboards.ca.gov>
Sent: Friday, October 1, 2021 8:50 AM
To: Kler, Shaminder@Waterboards <Shaminder.Kler@waterboards.ca.gov>
Cc: Weininger, Jonathan@Waterboards <Jonathan.Weininger@waterboards.ca.gov>
Subject: FW: Big basin water

From: Brad Bright [redacted]
Sent: Thursday, September 30, 2021 9:16 PM
To: WB-DWPDIST05 <DWPDIST05@waterboards.ca.gov>
Subject: Big basin water

EXTERNAL:

We have no water starting at 9pm and the number for big basin water is not valid. We need answers thank you

Sent from Yahoo Mail on Android

From:	WB-DWPDIST05
To:	Kler, Shaminder@Waterboards
Cc:	Weininger, Jonathan@Waterboards
Subject:	FW: Big Basin Water Company Concerns
Date:	Wednesday, October 20, 2021 7:29:14 AM

From: Dan Hughes [redacted]
Sent: Tuesday, October 19, 2021 10:26 PM
To: WB-DWPDIST05 <DWPDIST05@waterboards.ca.gov>; Fifth.District@santacruzcounty.us
Subject: Big Basin Water Company Concerns

EXTERNAL:

Greetings,
I'm writing to express my concern about the Big Basin Water Company. The owners are a single family owned private company (retirement age husband and wife along with their son) that hundreds of customers rely on. Being private they disclose the bare minimum and many of us have concerns about the short and long term viability of the water system we so rely on.
There are many leaks (currently all system water is shut off due to another leak). They barely communicate and use Facebook posts or Nextdoor posts to provide minimal information. such as... There is a leak and we are trying to locate and fix it...Such information should be in one site and that's their website, and with greater detail...Half of the customers have personal ties to the Moore's and blindly back them regardless of the issues at hand. The other half have concerns such as mine. They've provided no information on the status of the system since the CZU fire and to my knowledge have not applied for FEMA assistance or any other assistance. We also understand they have been running solely on an emergency back-up well...and with the drought, what happens when that runs dry? There's been rumors of selling, but due to many systematic and stipulation issues, there have been no takers.
I've felt the need to get bottled water delivered at about $50/Month due to foul (chemical) tasting water and frequent outages and I have buckets so I can go to the pond and get water to flush toilets. It's bad enough that PGE power is constantly going out, but I literally fear this water system is eventually going to disintegrate and we'll all be stuck with condos and homes with no services and no property value in the macro and too many inconveniences in the micro.
I pay $8k in taxes (and many pay more) and $5k in HOA and feel like I'm living in a 3rd world country more times than I'd prefer.
Feel free to contact me with any information or questions.
Sincerely,
Dan Hughes

From: [redacted]
To: Weininger, Jonathan@Waterboards
Subject: Big Basin Water in Boulder Creek, Ca.
Date: Wednesday, October 20, 2021 10:21:37 AM

EXTERNAL:

Jonathan,

The purpose of my e-mail is to see if you are the State agency that oversees Big Basin Water company in Boulder Creek, Ca. I wish to be anonymous in my complaint because I know the family who owns it and it is a very small town. Our water was out for a few days just over a week ago and now as of yesterday it is out again. The phone number I have for the water company has been disconnected. There is no communication as to when the water will be restored. The information I see on neighbors social media as that they are hearing it could be a number of days until it is restored.

The issue I see with Big Basin Water is that they are a small mom and pop shop. When the water is out there is only two or three people working on the issue so many hours a day. There should be an around the clock crew working on an issue until it is restored. I appreciate them for their hard work however water is a necessity and health and safety issue. I need to be able to go to work and take a shower and have drinkable water. What happens if we have another fire like we did a little over a year ago and there is no water for the fire department ? It makes no sense that if there is a leak in one area that they cannot shut off that leg and keep the rest of the customers online vs. shutting the entire water system down for everyone.

Something needs to be done by the State since this is been an ongoing issue for several years and it is getting worse. Is it possible for the State to help fund Big Basin Water so they can hire a crew to work on a loss of water issue 24/7 until it was restored like any other water company or public utility?

Can the State force or encourage them to let another local and larger water company take them over?

Thank you,

From:	WB-DWPDIST05
To:	Kler, Shaminder@Waterboards
Cc:	Weininger, Jonathan@Waterboards
Subject:	FW: Big Basin Water
Date:	Friday, October 22, 2021 7:35:26 AM
Attachments:	drinking water.jpg

From: Penny Ellis [redacted]
Sent: Thursday, October 21, 2021 9:37 PM
To: WB-DWPDIST05 <DWPDIST05@waterboards.ca.gov>
Subject: Big Basin Water

EXTERNAL:

Hi,

I'm contacting you to let you know that I am very displeased with Big Basin Water and their inability to repair their infrastructure after the CZU Fire wiped out a good portion of it. I live at the BC Golf Club and our water has been undrinkable since the fire. The taste and smell is very different from before the fire... and more recently they had a major leak that SLV Water had to step in and repair for them, and here going on 3 days & we still have tan colored water.

Something must be done to ensure the quality of water that gets distributed to Big Basin Water customers is clean and safe to drink. We cannot continue to put up with substandard service, unsafe water & lack of communication for what is going on. **Big Basin Water does not communicate to their customers when there is an issue with their system.** The only way I find out anything is through the BC Golf Course Facebook page! You can see all the angry comments that people have at:

Big Basin Water needs to be acquired by a company that will be able to provide our community with clean water. We should not have to wait for them to find someone to purchase their company, which continues to place the health of our entire community at risk. This is not acceptable and I suggest the county step in to take control of this situation ASAP before it significantly affects our health and property values. No one is going to want to live here & put up with constant water issues.

Please let me know what further actions I can take to make this a priority. With the most recent leak and 3 days of tan colored water... tensions are extremely high among my neighbors right now and this can't continue to get further out of control...

Thanks for your understanding and please feel free to contact me if you have any questions.

Penny Ellis
133 E. Hilton Dr.

BC. CA. 95006

[redacted]

From: Linda Moore
To: Kler, Shaminder@Waterboards
Subject: No water
Date: Monday, October 25, 2021 11:25:38 AM

EXTERNAL:

We have no water and Big Basin Water refuses to fix the problem. My husband, Alston Channing Moore (Chan) was the Licensed Small Water Systems Engineer for Bracken Brae before we moved to our present home on Rosita Drive in Boulder Creek. We lost our water last evening. Because it was dark and raining so heavily (according to our Weather Station, we received 10.25 inches in 24 hrs), my husband waited till this morning to walk our water line and check our meter and the Big Basin Water connection to our meter. He found that there was no water in our line nor any coming into our meter from the Big Basin Water's main line on Rosita. He called and left a message with BBWs message service, then drove over to the BBWs "office" and left a note explaining the problem and asking them to fix it. Jim Moore's son Damian, who is Jim's only paid assistant and employee to my knowledge, drove up to Rosita behind my husband, so Chan told Damian that the problem was from the BBW connection at the bottom of Rosita up to their/our meter. When Chan asked Damian not to drive up the back access road because it was so muddy that his vehicle would make it impassably rutted afterwards, Damian blew up at Chan, called us terrible customers, etc., then drove away without doing anything to identify or fix the problem. Damian could have driven up on our concrete driveway to our house and walked back to the meter (the way Chan does and did) or walked directly up to the meter from Rosita along their line, or actually checked their main line on Rosita. Instead, he drove away and left us with no prospect of having our water restored. We need your help in contacting Jim Moore, the owner of Big Basin Water, and getting him to fix the problem so that we can have water. I can be contacted at [redacted] by phone or text or by email and would appreciate your response ASAP. Thank you for your assistance. Linda K Moore, 280 Rosita Dr, Boulder Creek, Ca. 95006

From:	Weininger, Jonathan@Waterboards
To:	Gregg schlaman
Cc:	Kler, Shaminder@Waterboards
Subject:	RE: big basin water
Date:	Tuesday, July 26, 2022 2:12:10 PM

Good Afternoon Gregg Schlaman,

Thank you for reaching out to us. We are sorry that you are experiencing these issues. To help us better understand how to follow up with your complaint against Big Basin Water Co, would you mind providing us with your phone number so we can give you a call?

Thank you,
Jonathan Weininger, PE
Monterey District Engineer
State Water Resources Control Board - Division of Drinking Water
Office: (831) 655-6939 or Direct: (831) 655-6932

From: Gregg schlaman [redacted]
Sent: Tuesday, July 26, 2022 12:12 PM
To: Weininger, Jonathan@Waterboards <Jonathan.Weininger@waterboards.ca.gov>
Subject: big basin water

EXTERNAL:

HI. I am writing to you today as this is the tenth time this year and countless number of times since the CZU fires that we have lost water pressure at our home in boulder creek and have been unable to use basic services in our home because of lack of water.

Our home is located on the west side of the Boulder Creek Golf Course and near the top of this side of the BIg Basin water system, so whenever they have issues with their system for whatever reason, we are the first to lose water and the last to get it back.

Repeated calls to Big Basin Water have been fruitless as they never respond to calls unless there is a full system failure.

I am deeply concerned that this problem will only become worse once many of the homes in this area are rebuilt.

We have repeatedly asked Big Basin Water what they plan to do about this issue since they lost over half their water processing from CZU and as far as we can tell have done little to nothing to rebuild their water system since the fires. when the power goes out they have no backup plan to ensure water flow, which was a huge problem during CZU as the water system was useless for fire fighting during CZU. THIS IS A HUGE PROBLEM THAT NEEDS TO BE ADDRESSED AND IS SA PUBLIC SAFETY

ISSUE.

We struggle with what to do about these issues as we really appreciate all of the hard work that the Moore Family has provided over the years but it is clear that they are barely able to support the existing infrastructure let alone make any improvements.

Thank you for your time and we would appreciate a response as soon as possible.

From:	Kris Taylor
To:	Antonia Bradford
Cc:	Julie Lucia; Kler, Shaminder@Waterboards; Christopher Bradford; Chris Lucia; Genomurdock[redacted] rachellguerrero[redacted] bates.robin[redacted] Bill Hassell; Julia Wuest; Vince Cortinas; Tina Peña Cortinas; Lisa Carrell; tunechristman[redacted]
Subject:	Re: Big Basin Water and Sewage: Fallen Leaf Neighborhood
Date:	Thursday, January 19, 2023 10:20:07 AM

EXTERNAL:

Thank you Antonia, for your persistent advocacy for the community on this issue.

My experience is far less egregious than this most recent effort to squeeze money from our neighbors who have lost their homes, but I feel like it reflects a similar approach to the customers - that we are expected to pay for their failure to manage their business effectively.

We are a very small HOA at the golf course and I serve on the board. For several years around the time we moved here (2017) the HOA would suspend our service in the winter months as the sole purpose of the HOA's meter was to provide water to our landscape sprinklers. We do not have a pool, a clubhouse, not even a hose bib - just the irrigation system. In 2019, the Moores decided we couldn't do that anymore and informed a board member verbally that we had to pay the service charge whether we used the service or not. Their rationale was that it supports maintenance of the pipes and hydrants and we need those for our fire protection.

It is important to note that individual homeowners in the HOA also pay that service charge on their meter billing, we are all paying to support the service of pipes and hydrants for the protection of our homes. In some ways, it seems like we are being charged twice, since we're paying our own bills and then HOA dues to cover an additional $5,000 annually for service charges on a water meter that has not been used since before the CZU fire.

Their business practices have been questionable for a long time. They have a responsibility to their customers that they have failed to honor too many times to be ignored.

Sincerely,
Kris Taylor

On Thu, Jan 19, 2023 at 8:41 AM Antonia Bradford [redacted] wrote:

> Hello Mr Kler,
>
> I am adding a fellow BBW water customer who is dealing with very similar antics from BBW. Their name
> Is Kris Taylor and they can elaborate on their specific situation which has a very similar flavor as ours.
>
> Thank you very much for your time and attention to this matter.
>
> Best,

Antoñia Bradford

Sent from my iPhone

On Jan 19, 2023, at 8:20 AM, Julie Lucia [redacted] wrote:

Hello Mr. Kler and fellow neighbors,

Thank you, Antonia, for starting this conversation and summing up our disappointing meeting with the State Water Board. I would like to add that it seems like almost daily now we are hearing more stories from BBW customers about BBW's unethical practices (refusing to supply water, threats, forcing customers to pay for unused services, etc.). I'd also like to address the fact that we are still under a boil water order because BBW fails to monitor and test the water in a timely manner. My family is currently experiencing some gastrointestinal issues. I can't help but to think this could be caused by the water. Every time I bathe my kids I am thinking, "Is this water even safe?" That's a horrible feeling and not one any of us should have to endure. By owning BBW the Moore's have a civic duty to provide quality water and sewer services to their customers. Their mission statement states, "As a provider of water, we take pride in offering the best water and service. We are dedicated to serving the needs of our customers each and every day." It is my hope that someone can help us hold them to this statement and make it true.

Thank you.
-Julie Lucia

On Wed, Jan 18, 2023 at 10:24 PM Antonia Bradford [redacted] wrote:

Dear Kler,

I am writing to you this evening on behalf of myself and my neighborhood, Fallen Leaf (aka Big Basin Woods subdivision) and I've added a handful of my neighbors to this email. Our neighborhood was destroyed in the CZU fire and only a fraction of us are rebuilding thus far. We rely on Big Basin Water for our water and treatment of sewage. Their business was not managed properly even before the fire, and their systems incurred significant damage during the fire.

Jim and Teri Moore, the owners, have been refusing to cooperate with state and local agencies regarding the damage to their infrastructure. And as a consequence we are left holding the bag, at least that is what the state is telling us. Our neighborhood had a meeting with Jennifer Epps of the CPUC (with other people present) and county officials recently and here are some of the highlights of that meeting:

1. Jim Moore refused to attend
2. The county states they have no agency over the situation

3. The CPUC tried to tell a fire victim she could not move back into her home because of the state of disrepair of BBW sewer system even though the county knew the system was a mess but gave permits anyways
4. The CPUC has issued letters to Jim Moore and he blatantly ignores them.
5. The CPUC told us Jim Moore has not had his operators permit in over ten years
6. The CPUC told us they haven't regulated his systems in decades
7. The CPUC has not levied any fines or any other type of consequence for these infractions

The CPUC has also told us that they want us, fire victims that lost everything, to not only pay for the repair of the damaged systems, but the required upgrades even though according to Ms. Epps the CPUC didn't require him to make those upgrades like they were supposed to.

So instead of Jim Moore paying to repair his business, he allows sewage to pool at the intersection of 236 and Fallen Leaf to be pumped out at various intervals. Almost three years later he still has not had the damage properly assessed. As a consequence our sewer system is not functioning in a way that protects our waterways and our water quality is dubious at best. He also constantly misses testing date requirements and his customers find out way after the fact.

I am sure you are aware that many BBW water customers have been without water for weeks now, after the storm on New Years. BBW has stated they simply don't have the money to repair the pipes, and that is all they say. No water for weeks? How is this acceptable?

Needless to say, all of this is an absolute mess.

But the latest offense you will see attached to this email. Fire victims are being extorted to pay for sewage services that they are not using or have been threatened with sewer never being installed at their properties, making their parcels unbuildable and absolutely useless.

What can be done about this? The CPUC seemingly has no teeth to force Jim Moore into accountability and the county claims there is nothing they can do. We can't get any state money for repairs because its a privately held company but the answer CAN NOT be that fire victims who are vastly underinsured be responsible for the repairs and certainly not BBW extorting money from fire victims for services they are not currently receiving.

I was given your information from other BBW customers who reached out to me after I shared this letter on social media calling out BBW. They say you are responsive and helpful and I am praying that is the case because we are all exhausted and just need someone, anyone to please help us with this.

I look forward to your kind reply. Have a beautiful evening. Neighbors, if I missed anything please feel free to reply and add.

Best,
Antonia Bradford
[redacted]
285 Fern Rock Way
Boulder Creek, CA 95006

From: Graff, Kyle@Waterboards
To: Jeannette Larson
Subject: RE: Big Basin Water outage
Date: Tuesday, February 28, 2023 3:17:00 PM

Hello Jeanette,

Thank you for reaching out and notifying our office of the outage. I understand your frustration and our office is working with other State and local agencies to figure out a long-term plan for Big Basin Water Company. Please be aware of a precautionary boil water notice that was issued to all Big Basin Water Company customers approximately 1 hour ago in response to the recent outages - I don't believe it has been posted to their website yet. We are working with Big Basin Water Company to resolve this boil water notice as quickly as possible. If you have health related concerns regarding the drinking water, we recommend you talk to your health care provider.

Please let me know if you have any other questions or comments.

Thank you,
Kyle Graff

-----Original Message-----
From: Jeannette Larson [redacted]
Sent: Tuesday, February 28, 2023 12:25 PM
To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>
Subject: Big Basin Water outage

EXTERNAL:

Dr sir, our water is off again this morning. We are so tired of this problem and haven't stopped boiling water since December. Am always afraid t drink it because we o not have any communication from big basin water ever. If there is something you can do about this, I would sure appreciate it. Thank you Jeannette larson 140 Coffeeberry Dr., Boulder Creek.
Sent from my iPhone

From: Graff, Kyle@Waterboards
To: Lauren Tranchita
Cc: Matthew Tranchita
Subject: RE: Big Basin Water Outage
Date: Friday, March 3, 2023 11:23:00 AM

Hello Lauren,

According to Big Basin Water Company, they needed to hire a contractor to complete the necessary repairs due to the difficulty of the repair. They said the contractor began working on the repairs this morning but stopped because the roads were busy and they needed to get a traffic control crew. They did not provide a time for when work will resume. Please let me know if you have any other questions or comments.

Thank you,
Kyle Graff

-----Original Message-----
From: Lauren Tranchita [redacted]
Sent: Thursday, March 2, 2023 4:25 PM
To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>
Cc: Matthew Tranchita [redacted]
Subject: Re: Big Basin Water Outage

EXTERNAL:

Hi Kyle,

Thank you for your prompt response. I appreciate you taking the time.

As of today 3/2/23, we're still without water. Today is day 8. I contacted BBW on Tuesday and haven't received any updates.

Address: 150 Midway Ranch rd, boulder creek, 95006

I know of one other neighbor on our road who is currently out as well. However most neighbors have water storage tanks so it's hard to tell if others are actually out as well.

Thanks.

Lauren Tranchita
RN, BSN

> On Mar 1, 2023, at 10:33, Graff, Kyle@Waterboards <Kyle.Graff@waterboards.ca.gov> wrote:
>
> Hello Lauren,
>
> Thank you for the email. Our office is aware of widespread outages that occurred on the morning of February 28th in Big Basin Water Company's service area. Big Basin Water Company stated the cause of the outages was located, isolated, and the rest of the water system was back in service. A system-wide Boil Water Notice was issued yesterday afternoon (February 28th) in response to the outages. A copy of the boil water notice is posted on Big Basin Water Company's website.
>
> I'm unaware of any outages dating all the way back to February 22nd. Are you still experiencing an outage today? Can you provide your address so we can investigate this further? Do you know if other customers on your road are

also experiencing a water outage still?
>
> The State Water Board is working with other State and local agencies to determine the best short and long-term plan forward for Big Basin Water Company and its customers. The Division of Drinking Water continues to regulate Big Basin Water Company and enforce drinking water regulations. Please continue to contact our office and other State and local agencies and representatives if you have further comments or questions.
>
> Thank you,
> Kyle Graff
> Water Resource Control Engineer
> Division of Drinking Water
> State Water Resources Control Board
>
>
>
> -----Original Message-----
> From: Lauren Tranchita [redacted]
> Sent: Tuesday, February 28, 2023 6:28 PM
> To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>
> Cc: Matthew Tranchita [redacted]
> Subject: Big Basin Water Outage
>
> EXTERNAL:
>
>
> Hi Kyle,
>
> I was given your email from another big basin water customer.
>
> We've been without water since Wednesday 2/22. I've contacted Big Basin Water twice and have been told they're not able to make the necessary repairs due to the rain, despite having a 2 day break in the storm. I understand safety comes first, however I'm feeling frustrated that this has lasted so long.
>
> In addition, we've been out of water at least 3 other times this year. Usually lasting between 1-3 days.
>
> I'm curious what the water board can do to support our small community.
>
> Thank you.
>
> Lauren Tranchita
> RN, BSN

From: Graff, Kyle@Waterboards
To: sue welsh
Subject: RE: Big Basin Water outage
Date: Wednesday, March 1, 2023 11:07:00 AM

Hello Sue,

Thank you for the email. The Division of Drinking Water is aware of widespread outages that occurred on the morning of February 28th in Big Basin Water Company's service area. Big Basin Water Company stated the cause of the outages was located, isolated, and the rest of the water system was back in service. A system-wide precautionary Boil Water Notice was issued yesterday afternoon (February 28th) in response to the outages. A copy of the boil water notice is posted on Big Basin Water Company's website. Big Basin Water Company is required to complete delivery of boil water notices within 24 hours via a direct method such as mail, phone call, or email.

The State Water Board is working with other State and local agencies to determine the best short and long-term plan forward for Big Basin Water Company and its customers. The Division of Drinking Water continues to regulate Big Basin Water Company and enforce drinking water regulations. Please let me know if you have any other questions or comments.

Thank you,
Kyle Graff

From: sue welsh [redacted]
Sent: Tuesday, February 28, 2023 7:57 PM
To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>
Subject: Big Basin Water outage

EXTERNAL:

HI, I LIVE IN BOULDER CREEK AT 211 COMPASS CT., I RENT A STUDIO AT THIS ADDRESS. WE ARE ONCE AGAIN WITHOUT POTABLE WATER AND WERE NOT NOTIFIED OF THE PROBLEM OR THE BOIL WATER NOTICE UNTIL IT WAS SEVERAL HOURS OLD. NO ONE IS CERTAIN IF WE'RE GOING TO RUN OUT OF WATER OR HOW LONG THIS BOIL WATER NOTICE WILL TAKE. THIS IS NOT NEW AND TRUST THE WATER BOARD, BUT NOT BBW. IF YOU HAVE ANY INFORMATION ABOUT THIS, I'LL SHARE WITH THE OTHER FAMILIES. THANK YOU, SUE WELSH [redacted]

From: Graff, Kyle@Waterboards
To: John Arrasjid
Subject: RE: Big Basin Water outage
Date: Friday, March 3, 2023 11:59:00 AM

Hello John,

My office – the Division of Drinking Water of the State Water Resources Control Board – has issued enforcement actions, some with fines, to Big Basin Water Company. In the enforcement actions, the Division of Drinking Water directed Big Basin Water Company to increase source capacity and reliability (by drilling new wells for example). Big Basin Water Company has not yet complied with this directive and we continue to pursue further enforcement.

Regarding installing a private well for your residence, that would have to be discussed with Big Basin Water Company as it may violate their cross-connection control ordinance. The County of Santa Cruz is responsible for permitting new private wells, so you may want to reach out to them. My office does not have any jurisdiction over the construction of new private wells.

I hope this helps. Let me know if you have any other questions.
Kyle Graff

From: John Arrasjid [redacted]
Sent: Thursday, March 2, 2023 11:23 AM
To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>
Subject: Re: Big Basin Water outage

EXTERNAL:

Thank you. I do have a follow up. We are aware that there are many things that need to be fixed and the county (or PUC) has issued fines related to this. Big Basin Water says they are looking at selling some of their watershed property, but given we have only one well and no surface water (due to the 2020 CZU fires), we are all concerned if that will make the situation worse. This last outage is only one of many that have happened. We average outages about once every 1-2 months, in some cases for several days.
Any help your team can provide would be greatly appreciated. Is there any way you can step in and allow residents to also put their own wells in place, especially for people that have medical conditions? Right now when water is out, we've been luck to have San Lorenzo Valley allow us to fill water barrels in town, but this has been going on for 2 years now.
Thank you for your help on this. We understand this is a challenging problem to solve given it is family owned and operated, they have not had sufficient insurance coverage, and have infrastructure that needs to be fixed.
john

On Thu, Mar 2, 2023 at 9:06 AM Graff, Kyle@Waterboards <Kyle.Graff@waterboards.ca.gov> wrote:

> Hello John,

Thank you for the email. The Division of Drinking Water is aware of the widespread outages that occurred on February 28th in Big Basin Water Company's service area. A system-wide precautionary Boil Water Notice was issued in response to the outages. A copy of the boil water notice is currently posted on Big Basin Water Company's website.

The State Water Board is working with other State and local agencies to determine the best short and long-term plan forward for Big Basin Water Company and its customers. The Division of Drinking Water continues to regulate Big Basin Water Company and urges them to complete the required sampling to lift the boil water notice as soon as possible. Please let me know if you have any other questions or comments. We appreciate your input.

Thank you,
Kyle Graff

-----Original Message-----
From: John Arrasjid [redacted]
Sent: Wednesday, March 1, 2023 1:23 PM
To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>
Subject: Big Basin Water outage

EXTERNAL:

FYI. Yesterday we had another water outage at our house tied to Big Basin Water. This continues to be a recurring issue where water goes out and it takes a long time to repair, followed by a multi day boil order. If I was allowed to do it, I would pay to get a well installed. We are not allowed, yet the county is not helping resolve our water crisis that was bad before the CZU fires, and is now much worse. Every time there is a power outage, we are told a to conserve water as we will run out for extended power outages.
Thank you for taking this input to help us relieve the issues we've been facing for several years.

From: Graff, Kyle@Waterboards
To: Kelton Shields
Subject: RE: Big Basin Water Company boil water notification
Date: Monday, March 6, 2023 10:26:00 AM

Hello Kelton,

Thank you for letting us know. We are aware of Big Basin Water Company's failures to adequately notify its customers of boil water notices. We plan to include these violations of the notification requirements in a future enforcement action to Big Basin Water Company.

Thank you,
Kyle Graff

From: Kelton Shields [redacted]
Sent: Monday, March 6, 2023 9:51 AM
To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>
Subject: Re: Big Basin Water Company boil water notification

EXTERNAL:

Hey Kyle,
I wanted to let you know that they never distributed any such letter to me or any of my neighbors. This is the same as what happened the last time there was an outage. I wanted to see if there was a way you guys can follow up with them as this this ongoing issue. It's caused us to not feel safe about drinking the water because we don't know when there is a boil water notice.

Sincerely,
Kelton Shields

On Mon, Mar 6, 2023 at 9:37 AM Graff, Kyle@Waterboards <Kyle.Graff@waterboards.ca.gov> wrote:

> Hello Kelton,
>
> Thank you for the email. Drinking water regulations require Big Basin Water Company to follow its emergency notification plan. Their emergency notification plan states they will complete hand delivery of the notice to all affected customers.
>
> Other acceptable direct delivery methods could include a direct phone call, email, or a mailed or hand delivered hard copy of the notice. The notice must be distributed as soon as possible and within 24 hours.
>
> Secondary (non-direct) delivery methods, such as posting the notice to the water company's website or to Facebook or Nextdoor, do not meet the requirements for direct delivery.

The Division of Drinking Water has notified Big Basin Water Company that posting boil water notices to its website and social media sites is not adequate. Big Basin Water Company has reportedly been asking customers for their email and phone numbers to build a database of contact info so they can properly notify customers quickly and directly.

Please let me know if you have any other questions or comments. Thank you,
Kyle Graff

From: Kelton Shields [redacted]
Sent: Sunday, March 5, 2023 6:05 PM
To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>
Subject: Big Basin Water Company boil water notification

EXTERNAL:

Hey Kyle,
I was wondering what forms of notification Big Basin Water Company needs to provide when there's a boil water notice. They didn't send out any letters or anything with the boil water notice that is in effect. They just posted on their website a day after the water went out. It seems like they're using the Nextdoor app as what they consider as official forms of notification, and have set up a new page there. I wanted to see if this was the correct method of notifying, because many of their customers are not on that app.
Is Big Basin supposed to send letters to each other affected residences?

Sincerely,
Kelton Shields

From: Graff, Kyle@Waterboards
To: Trudi James
Subject: RE: Big Basin Water outage
Date: Monday, May 8, 2023 2:17:00 PM

Hello Trudi,

Thank you for notifying us of the outage and I apologize for the frustrating situation. Big Basin Water Company reports that water service is restored to all customers. Please be aware areas that experienced the outage are under a precautionary boil water notice until Big Basin WC completes testing to show the water is safe to drink. A copy of the boil water notice is currently on Big Basin WC's website. Please continue to report any further outages directly to Big Basin WC. We appreciate your comments.

Let me know if you have any other comments or questions.

Thank you,
Kyle Graff, P.E.
Division of Drinking Water
State Water Resources Control Board

From: Trudi James [redacted]
Sent: Saturday, May 6, 2023 6:35 PM
To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>
Subject: Big Basin Water outage

EXTERNAL:

Fortunately I got some texts from my condo association notifying me that the water was out. None of us were notified by Big Basin Water even though many, including me, had given Big Basin Water our email and phone numbers.
There is a posting on the website which the condo group text directed me too. It says the water will be out until a leak is fixed with no estimates. And no information if the water I had already drawn, sitting on my counter is safe.

There was no notice when the water was gritty and discolored recently, and no follow up to my phone call reporting it, and no notice if I should be boiling water again. Therefore I have no confidence I will be told if and when the water is safe after this leak is fixed.

Have to rely on San Lorenzo Water for drinking and cooking, the access which is 10 minutes drive away. And have no water for flushing, shower or laundry.

I realize that it is a big job for a family to run a water service for a growing town. And, I expect that if I am paying for a service, that the service, that what I am paying for will be delivered. In this case, I am paying for reliable and, most importantly, safe water. At the very least, even a small company can put things in place to communicate with the community, again, a factor of safety as well as convenience.

Thank you for reading

Trudi James
Boulder Creek Golf Course Condos Unit 2.

Mooney, Laura@Waterboards

From: Graff, Kyle@Waterboards
Sent: Monday, May 8, 2023 2:16 PM
To: sseeger[redacted]
Subject: RE: Water Outage

Hello Sue,

Thank you for notifying us of the outage and I apologize for the frustrating situation. Big Basin Water Company reports that water service is restored to all customers. Please be aware areas that experienced the outage are under a precautionary boil water notice until Big Basin WC completes testing to show the water is safe to drink. A copy of the boil water notice is currently on Big Basin WC's website. Please continue to report any further outages directly to Big Basin WC. We appreciate your comments.

Let me know if you have any other comments or questions.

Thank you,
Kyle Graff, P.E.
Division of Drinking Water
State Water Resources Control Board

-----Original Message-----
From: sseeger@[redacted]
Sent: Saturday, May 6, 2023 5:12 PM
To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>
Subject: Water Outage

EXTERNAL:

Big Basin Water Co. has shit off the water to Boulder Creek Country Club Villa II due to a water leak. He is the owner of a private company of 3 people and said he isn't going to work on the weekend to find the problem . We won't have water until problem is found and fixed. How can this be? If it is your company don't you need to work sometimes ? It affects 22 dwellings. We have handicapped , young and old people that need a toilet at the very least. Nothing is being provided for us. Just no water.

Warm Regards,
Sue Seeger, Realtor
CalBRE #01716913
David Lyng Real Estate
(831)227-1344
https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.sueseeger.com%2F&data=05%7C01%7CKyle.Graff%40waterboards.ca.gov%7Cce5d22710c8e4f79325808db4e8fc055%7Cfe186a257d4941e6994105d2281d36c1%7C0%7C0%7C638190151538853651%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=NwyhrH70J%2Fnsv%2ByTvGXS0KjRz02OrFxOSmT%2BBhT9Fzo%3D&reserved=0

EXHIBIT U

February 28, 2023

(Via email and Certified Mail)
CERTIFIED MAIL
NO. 7022 0410 0001 5229 6096

Thomas James Moore, Owner
Shirley Moore, Owner
Big Basin Water Company
PO Box 197
Boulder Creek, CA 95006
sjm16595@gmail.com

SUBJECT: BIG BASIN WATER COMPANY (SYSTEM 4410001)

Dear Mr. and Mrs. Moore:

The State Water Resources Control Board (State Water Board) Division of Drinking Water (Division) has engaged the Office of Enforcement regarding Big Basin Water Company's (BBWC) continued violations of the California Safe Drinking Water Act and its implementing regulations, as well as multiple Citations and a Compliance Order issued to BBWC by the Division. Despite the Division's repeated enforcement efforts, there has been no improvement in the condition of BBWC's water system.

Ownership and operation of a public water system constitutes a significant public responsibility. As you know, BBWC must ensure a reliable and adequate supply of water at all times that is pure, wholesome, potable, and does not endanger the health of its consumers. BBWC is not currently satisfying that obligation as it does not have the technical, managerial, and financial capacity to operate a public water system, and it is unresponsive to the rules and orders of the Division. We summarize these issues below to provide context for our proposed solution and ask that you agree to attend a meeting with us on March 14, 2023, to discuss an immediate and long-term solution to BBWC's continued violations.

Lack of Technical Capacity: BBWC's Source Capacity Deficiency and Persistent Water Outages and Boil Water Notices

Although there is a history of regulatory compliance issues at BBWC, we confine our discussion to events that began with the Division's issuance of 2018 Sanitary Survey Report for BBWC, which identified deficiencies in the water system and made recommendations for corrective action. Among other deficiencies, the Division identified BBWC's noncompliance with source capacity regulations. At that time, BBWC's primary water source was surface water from Corvin Creek and Jamison Springs as well as a horizontal well. Surface water was treated at BBWC's surface water treatment plant (SWTP). BBWC's second water source was groundwater from Well 4, which supply is limited and was used only as a backup source.

On March 3, 2019, BBWC provided its written response to the 2018 Sanitary Survey Report, setting forth corrective actions for each deficiency identified by the Division. In total, BBWC estimated that its planned corrective actions would cost **$2,877,900.00**. Included within that estimate were costs to address BBWC's source capacity deficiency.

Nearly four years later, BBWC has not taken action to increase its source capacity and the problem has grown much worse. Without adequate source capacity, BBWC cannot consistently supply safe drinking water to its customers and public health is endangered. Other deficiencies in BBWC's system amplify this danger, including BBWC's failure to secure adequate backup power for its system and its failure to repair and replace storage and distribution facilities. The threat to public health became a reality in October 2019, when Pacific Gas & Electric instituted a public safety power shutoff due to high fire danger. Despite ample notice of the planned power outage, BBWC was unable to adequately respond and experienced a water outage on October 28 and 29, 2019, which required BBWC to issue a boil water notice to affected customers. BBWC thereafter did not comply with the Division's repeated requests that BBWC provide a power outage response plan to eliminate the recurrence of the problem.

In February 2020, the Division issued another report documenting deficiencies at BBWC's SWTP. The report was rendered moot when the CZU Lightning Complex Fire destroyed the SWTP and damaged other parts of BBWC's system in August 2020. As a result, BBWC was left with only one water source – Well 4 – and its source capacity deficiency became even more dire. Well 4, alone, cannot satisfy BBWC's source capacity requirement under any scenario. Moreover, reliance on a single water source is rarely acceptable because there is no backup in the event of a failure, such as a problem with Well 4's operation. Following the fire, BBWC's system deficiencies and fire-related water quality impacts resulted in BBWC's customers being under a do not drink / do not boil notice from August 2020 through January 2021. Because BBWC failed to take any steps to address the source capacity deficiency, the Division issued Compliance Order 02_05_21R_001 on April 9, 2021. The Compliance Order directed BBWC to obtain a second water source or establish a permanent interconnection to a nearby water system in the event Well 4 fails or is out of service for any reason. In response, BBWC first suggested it would install a temporary surface water treatment plant at the site of the former SWTP and then later proposed it would drill another well. In 2021, after the Division spent significant time reviewing the temporary surface water treatment plant proposal, BBWC notified the Division the project was not moving forward. To date, no progress has been made on constructing these or any other long-term solution.

The deleterious impact on BBWC's customers from BBWC's failures has been continuous. On June 27, 2021, BBWC experienced another water outage, leading to issuance of a boil water notice and the Division's issuance of Citation 02_05_21C_021. The Division directed BBWC to take specific actions to reliably provide water without outages, including by replacing pumps and appurtenances. BBWC did not comply. In October 2021, BBWC experienced more water outages, leading to another boil water notice and the Division's issuance of Citation 02_05_21C_021. In the cover letter

enclosing that citation, the Division informed BBWC that it was considering additional enforcement options, including seeking the appointment of a receiver. BBWC then agreed in writing to pursue consolidation with San Lorenzo Valley Water District (SLVWD) as a permanent long-term solution. However, BBWC did not enter into an interim management or other agreement with SLVWD, leaving BBWC responsible for continued operations of its system. In July 2022, BBWC customers notified the Division they were experiencing frequent water outages, leading to another boil water notice on July 26, 2022. BBWC reported to the Division that the outages were caused by the absence of any backup power for Well 4, which nearly two years after the CZU Lightning Complex Fire had still not been addressed by BBWC. In September 2022, BBWC customers again complained to the Division about a water outage. The Division's repeated inquiries to BBWC regarding securing a back-up power generator were met with delay and no action, leading the Division to issue Citation 02_05_22C_060 on September 22, 2022. Only then did BBWC take limited action—it obtained the necessary generator, which it did not purchase or lease but instead received as a loan from SLVWD.

BBWC did not take any other action to address its technical deficiencies, and the danger to public health continued to grow. Over the New Year holiday and throughout the month of January and into February 2023, BBWC's system was plagued with problems and water outages, necessitating multiple boil water notifications. While the precipitating event was a series of storms that struck California, the duration and seriousness of BBWC's water outages went far beyond what would be experienced by a functioning water system and was exacerbated by BBWC's inaction in response to the Division's prior enforcement efforts. BBWC's failures required issuance of a system- wide boil water notice. Many customers suffered water outages that lasted two weeks or more. SLVWD and BBWC reported to the Division that the motor starter in Well 4 failed, demonstrating why reliance on a single water source is dangerous and requires corrective action. This issue was resolved because of mutual aid provided by SLVWD.

The seriousness and extent of the system failures BBWC experienced would not have occurred if it had complied with the Division's past enforcement actions, including directives that BBWC (1) comply with source capacity requirements of the California Code of Regulations, title 22, section 64554(a)(2);[1] (2) maintain and follow a Water System Operations and Maintenance (O&M) Plan pursuant to the California Code of Regulations, title 22, section 64600, including a plan and procedure for responding to water supply emergencies caused by a power outage and having a power outage response plan that provides for a backup power supply;[2] (3) secure backup water supply in the event of an outage or failure of Well 4;[3] and (4) address the corrective actions identified in the 2018 Sanitary Survey Report, including correct or replace existing storage tank, booster station, and distribution system deficiencies.[4] Of equal

[1] *See* Compliance Order 02_05_21R_001; Citation 02_05_21C_030.
[2] *See* Compliance Order 02_05_21R_001; Citation 02_05_21C_030; Citation 02_05_22C_060.
[3] *See* Compliance Order 02_05_21R_001; Citation 02_05_21C_030.
[4] *See* Compliance Order 02_05_21R_001; Citation 02_05_21C_021; Citation 02_05_21C_030.

concern is that BBWC's multiple water outages and system failures would not have been fixed but for the technical knowledge and volunteer work performed by SLVWD.

BBWC's failure to comply with California's Safe Drinking Water Act and the Division's orders have led to a system on brink of collapse. BBWC's consolidation with SLVWD—the only viable long-term solution offered to date by BBWC—is now off the table, as SLVWD's Board of Directors has suspended efforts to pursue a consolidation with BBWC and terminated negotiations, as decided at SLVWD's Board of Directors meeting held February 16, 2023. Even if BBWC were to finally take on the work that is needed to correct all technical deficiencies, including obtaining the massive capital investment that is required to fund necessary improvements, BBWC's corrective actions will take years. BBWC's crumbling water system does not have years of operation left in it, and relying solely on SLVWD's continued voluntary aid is not only questionable given SLVWD Board of Director's recent decision but it is also not a viable long term technical plan. In the view of the Division and the Office of Enforcement, necessary change begins with resolving the managerial and resource challenges that BBWC has faced for some time.

Lack of Managerial Capacity: BBWC's O&M Failures and Its Inability to Adequately Staff Operations

Managerial capacity includes developing and implementing the appropriate planning and written policies for ordinary operations as well as emergency and disaster situations. Some of BBWC's managerial failings with respect to required O&M plans and implementation are summarized above, as is BBWC's current reliance on free aid from SLVWD to maintain operations. With only the two of you, as well as your son performing any work on behalf of the company, BBWC is plainly understaffed, both as to ordinary and emergency operations, as well as with respect to providing the customer service required of a public water system.

In recent years, BBWC has been crippled by poor communication with customers and with the Division. Although it is BBWC's obligation to inform the Division of water outages as they occur, it has become common that the Division first learns of BBWC water outages through complaints it receives from BBWC's customers. Those customers also often complain that BBWC does not respond at all to their customer inquiries. Not only is BBWC unwilling to communicate with its customers, but it also lacks the capacity to do so when required, as demonstrated in January 2023, when BBWC was unable to deliver boil water notices in accordance with the California Code of Regulations, title 22, section 64463.1, because BBWC does not maintain a list of customer contact information. BBWC's solution was to post the boil water notices on its website, which is not an authorized method of public notification under section 64463.1 and is particularly inappropriate because BBWC's website is not regularly maintained and often includes outdated information. BBWC's methods of communication, including its failures to communicate, create confusion and present a danger to public health.

Maintaining managerial capacity also includes the ability to follow through on consolidation, sale, or other long-term solutions to critical operations problems. There is a history of BBWC having a proposed plan for a large-scale improvement project, a consolidation, or a sale of the company that never comes to fruition. BBWC has also demonstrated that it does not have the managerial capacity to follow through on the Division's orders and directives. While the Moore family no doubt believes it is doing its best under challenging circumstances, it is not nearly enough. Additional resources, including managerial expertise, are needed to get a long-term plan over the finish line and bring BBWC's system back into compliance.

Lack of Financial Capacity: BBWC's Failure to Fund and Invest the Monies Needed to Operate a Public Water System

BBWC is a privately held, for-profit corporation operating a drinking water utility. It is charged with knowing and observing all applicable statutory and regulatory requirements not only to ensure that it provides safe drinking water but also to ensure it accurately budgets for current and future O&M costs and secures the funds necessary for regulatory compliance. Standard financial management would include seeking timely and appropriate rate increases from the California Public Utilities Commission (CPUC), applying for assistance from federal, state, and industry programs as assistance becomes available, raising capital through debt and/or equity financing, obtaining insurance, selling, leasing, or encumbering corporate assets, such as the hundreds of acres of watershed land owned by BBWC, and otherwise maximizing corporate assets.

Instead of adopting these practices, BBWC has operated for years without making necessary repairs, without replacing outdated infrastructure, without resolving known and serious source capacity issues, and without making any capital investments in the system or financial contributions to the corporation. The necessary costs to continue to operate BBWC are substantial—BBWC estimated those costs at $2,877,900.00 in 2019, which amount has likely increased substantially given the 2020 CZU Lightning Fire and continuing problems with the system. BBWC's consistent response to the Division's enforcement actions, as well as compliance related inquiries prior to 2018, has been to claim that BBWC's current rate structure does not allow for the work needed to bring the water system back into compliance. That response ignores that BBWC's suppressed rate structure, which is far lower than any comparable water system, is a function of BBWC's managerial decisions as to how the corporation has been operated for decades. For too long BBWC has failed to seek appropriate rate increases from the CPUC, access programs available to assist public utilities, or pursue other ways to raise necessary capital. BBWC's failure to maintain the financial capacity to operate its water system does not exempt BBWC from regulatory requirements, as BBWC seems to suggest. It is BBWC's obligation to operate its water system in a manner that ensures all financial requirements can be and are met, including costs that must be incurred to stay in compliance with California's Safe Drinking Water Act and implementing regulations.

BBWC's Water System Must Return to Compliance

The Division and the Office of Enforcement recognize that for decades BBWC and the Moore family have been important members of the Boulder Creek community and provided drinking water that met the primary drinking water standards. However, BBWC has demonstrated it can no longer operate its water system in compliance with California's Safe Drinking Water Act and all regulatory requirements. The Division's next enforcement step could be issuance of a new citation with administrative penalties for BBWC's continued non-compliance with the existing Compliance Order and Citations. By statute, those penalties could total more than $2,900,000.00.[5] That amount does not include new violations occurring in January 2023.

We nevertheless recognize that penalties alone will not fix the problems with BBWC's water system. We ask that you agree to work with us in formulating a plan for BBWC's water system and the approximately 1,120 Californians that it serves. In our view, a receiver should be appointed to assume possession and operate BBWC's drinking water system for the purpose of bringing BBWC back into compliance and ensure the public has reliable access to safe drinking water. That would include a receiver heading any effort by BBWC to sell the water system to an available buyer. If you are willing to work with our offices, we can jointly implement that solution. Alternatively, the Division and Office of Enforcement will recommend that the State Water Board file an action in the superior court seeking appointment of a receiver. If you have a different proposal that would immediately achieve the same goal, we want to hear and consider it.

We ask that you agree to a meeting at **11:00 a.m. on March 14, 2023**, at the Santa Cruz Board of Supervisor's Meeting Room located at **701 Ocean Street, Room 500, Santa Cruz** to discuss these matters. I will attend that meeting along with Division representatives Jonathan Weininger and Stefan Cajina. Please call me at 916-341-5891 or email me at Laura.Mooney@waterboards.ca.gov to confirm your agreement to a meeting. If I do not hear from you by **March 8, 2023**, we will proceed with the next enforcement steps. I look forward to hearing from you.

Sincerely,

Laura Mooney
Digitally signed by Laura Mooney
Date: 2023.02.28 15:33:57 -08'00'
Water Boards

Laura M. Mooney
Attorney
Office of Enforcement

cc: See next page.

[5] Pursuant to Health & Safety Code section 116650, BBWC is subject to a penalty of $1,000.00 a day for each continuing violation, including 423 days of non-compliance of Directives 1, 2, and 5 in Citation 02_05_21C_030, 392 days of non-compliance of Directive 4 in Citation 02_05_21C_030, and 1,246 days of non-compliance of Directive 5 in Citation 02_05_19C_012.

cc: *(via email only)*

Stefan Cajina
Supervising Sanitary Engineer
Division of Drinking Water
stefan.cajina@waterboards.ca.gov

Jonathan Weininger
Monterey District Engineer
Division of Drinking Water
jonathan.weininger@waterboards.ca.gov

Matt Carr, Attorney
Office of Chief Counsel
matthew.carr@waterboards.ca.gov

EXHIBIT V

PURCHASE AND SALE AGREEMENT

THIS PURCHASE AND SALE AGREEMENT (*"Agreement"*) is made as of the 9th day of March, 2023 by and between CENTRAL STATES WATER RESOURCES, INC., a Missouri corporation, or its assigns (*"Buyer"*), and BIG BASIN WATER COMPANY, INC., a California corporation qualified and registered to transact business in the State of California (individually and collectively *"Seller"*), collectively ("*Parties*").

ARTICLE I
ACQUISITION OF THE PROPERTY

Section I.1 The Property. Subject to the terms and provisions of this Agreement, Seller agrees to sell to Buyer, and Buyer agrees to purchase from Seller, all of the following described property (the *"Property"*):

(a) All immovable property, including all right, title and interest therein, described in **EXHIBIT A**, to be attached hereto prior to the conclusion of the Feasibility Period (as hereafter defined) and made a part hereof, including but not limited to any mineral and other subsurface rights, together with all buildings and improvements located thereon, and all appurtenant rights relating thereto, including, but not limited to, warranties and guaranties, access easements and other easements and rights relating thereto, access to utilities, rights of way and similar rights located on or within or relating to any of the foregoing (collectively, the "*Immovable Property*");

(b) All movable property and intangible property used in connection with the ownership and/or operation of the Immovable Property, including, but not limited to, all such property described in **EXHIBIT B**, to be attached hereto prior to the conclusion of the Feasibility Period (as hereafter defined) and made a part hereof, however expressly excluding any and all cash, cash equivalents and banking deposits in existence prior to the Closing, any and all accounts receivable accrued prior to the Closing, and any customer deposits held by Seller (collectively, the "*Movable Property*");

(c) All of Seller's right, title, and interest in and to the area that the System (as defined below) services (the "*Service Area*"), as determined by Buyer and set forth in **EXHIBIT C**, to be attached hereto prior to the Closing (as hereinafter defined) and made a part hereof, including but not limited to, all real property interests such as easements, rights of way, permits and leases related to the System, and including any and all water and sewer facilities, equipment, lines, plants, pipes, manholes, meters, lift or pump stations and appurtenances; and

(d) All property or rights of whatever nature and kind that Seller owns which in any way is used or is useful in the operation of a water and sewer utility system located in Santa Cruz County, California (the "*System*").

Section I.2 Purchase Price.

(a) The purchase price (the *"Purchase Price"*) for the Property shall be **Two Million Five Hundred Thousand and 00/100 Dollars ($2,500,000.00)**. The reasonable allocation of the Purchase Price between the categories in Sections 1.01(a) and 1.01(b) of the Property shall be set forth in **EXHIBIT D** prior to the Closing.

(b) The Purchase Price less any Earnest Money shall be payable in cash at Closing by wired funds and shall be paid by Buyer to Seller (to the account notified by Seller to Buyer prior to the Closing Date) on the Closing Date as defined in Section 4.01.

Section I.3 Earnest Money. Within fifteen (15) days after the Effective Date (as defined below), Buyer shall deposit with a title company of its choice (the *"Title Company"*) the sum of **Twenty Five Thousand and 00/100 Dollars ($25,000.00)** as the earnest money under this Agreement (the "*Earnest Money*"). The Earnest Money shall be returned to Buyer or paid to Seller in accordance with the terms and conditions of this Agreement.

Section I.4 Independent Consideration. A portion of the Earnest Money in the amount of One Hundred and No/100 Dollars ($100.00) (the "*Independent Consideration*") will be distributed to Seller upon any termination of this Agreement as full payment and independent consideration for Seller's execution of this Agreement, for the right of Buyer to review the Property as set out in Article II herein and for the right of Buyer to

purchase the Property upon the terms set forth herein which are granted by Seller and fully vested to Buyer at the time of the deposit of the Earnest Money with the Title Company. The Independent Consideration shall be, under all circumstances, nonrefundable to Buyer and shall be applicable to the Purchase Price.

ARTICLE II
SURVEY AND TITLE REVIEW

Section 2.01 Survey. Buyer shall have the right, for its own benefit, to procure one or more ALTA surveys of the Immovable Property, subject to Section 2.03 (the "*Survey*"). The Survey shall be current, staked, and shall be made on-the-ground and signed, sealed, and certified in favor of Buyer by a duly licensed surveyor selected or approved by Buyer and receipt of the Survey by Buyer prior to Closing, subject to Section 2.03, is a condition to Closing. The cost of the Survey shall be borne by the Buyer.

Section 2.02 Title Insurance. The Buyer shall, within fifteen (15) days after the Effective Date, order and must receive prior to the Closing, subject to Section 2.03, as a condition to Closing, a commitment for title insurance and complete, legible copies of all exception documents (the "*Title Commitment*") issued by the Title Company covering the Immovable Property, binding the Title Company to issue to Buyer at Closing an owner's policy of title insurance paid for by Buyer (the "*Title Policy*") on the standard form of policy in the amount specified by Buyer insuring good, merchantable, and insurable fee simple title to the Immovable Property in Buyer, free and clear of all restrictions, easements, encumbrances, mortgages, liens, claims and other matters except any Permitted Exceptions as defined in Section 2.03.

Section 2.03 Buyer's Review. Buyer shall have until the expiration of the Feasibility Period to examine the Title Commitment and the Survey, and to deliver to Seller in writing Buyer's objections to any items contained or set forth in the Title Commitment or the Survey (the "*Unacceptable Exceptions*"). If Seller is unable or unwilling to eliminate and remove all of the Unacceptable Exceptions, then within fifteen (15) days after receipt of Buyer's written notice, Seller shall notify Buyer in writing of its inability or unwillingness to remove the Unacceptable Exceptions (and such notice shall set forth which Unacceptable Exceptions that Seller is unable or unwilling to remove) and Buyer may terminate this Agreement by giving written notice of such election delivered to Seller. If Buyer so terminates this Agreement, the Earnest Money shall be promptly returned to Buyer, after which neither Party shall have any further rights, duties or obligations hereunder, except as expressly provided in this Agreement to the contrary. If Buyer does not so terminate this Agreement after receiving Seller's written notice, then the Unacceptable Exceptions together with other exceptions not objected to by Buyer shall become Permitted Exceptions (the "*Permitted Exceptions*").

Section 2.04 Feasibility Period.

(a) Seller shall allow Buyer and its agents, employees, contractors, and consultants access to the Property to conduct soil and engineering tests, inspections of equipment, personal property, lines and other components of the System and to conduct any other tests Buyer deems necessary or appropriate in its sole and absolute discretion to determine the feasibility of the Property for Buyer's intended use (the "*Feasibility Study*"), for a period of **One Hundred Eighty (180) days** after the Effective Date (the "*Feasibility Period*"). Buyer shall bear all costs and expenses of its investigation and restore the Property to its condition prior to such investigation, ordinary wear and tear excepted.

(b) If Buyer finds the Property unacceptable for any reason or no reason, then Buyer, in its sole and absolute discretion, may terminate this Agreement by written notice to Seller on or before the expiration of the Feasibility Period. If Buyer so terminates this Agreement, the Title Company shall, upon demand by Buyer, promptly return the Earnest Money to Buyer and thereafter neither Party shall have any further rights, duties or obligations to the other hereunder.

(c) Seller shall deliver to Buyer within ten (10) business days after the Effective Date of this Agreement, the most recent title commitments, title policies, surveys, environmental site assessments, preliminary plats and site plans, any cross access and easement documents in connection with the Property, any development

agreements affecting the Property, lease agreements affecting the Property, any customer lists for the System and any other documents Buyer may reasonably request related to the Property and/or the System.

Section 2.05 Other Termination Rights. In addition to any other rights and remedies set out herein (including but not limited to the termination rights in Sections 2.03, 2.04, 3.02(b) and 5.02), the Buyer shall have the right to terminate this Agreement as set out below:

(a) At any time up to and including the Closing Date if the regulatory bodies required to approve the sale of the System and the Property to the Buyer have not fully and unconditionally approved the sale upon the terms set out herein. In Buyer's sole and absolute discretion, Buyer may terminate this Agreement if the necessary regulatory approvals are not fully and unconditionally granted to Buyer in a form reasonably satisfactory to Buyer (as determined in Buyer's sole and absolute discretion) prior to the Closing by giving written notification of such termination to Seller, and upon such termination the Buyer shall receive a prompt return of the Earnest Money.

(b) In the event that, prior to the Closing, all or any portion of the Property is taken, condemned, expropriated, or made the subject of any eminent domain proceedings, or any of the foregoing is threatened (interchangeably, a "*Taking*"), Buyer may elect to either move to Closing and receive any Taking proceeds, plus an assignment of Seller's right, title, and interest thereto and claim therefor, as full satisfaction for the Taking, or Buyer may terminate this Agreement, and upon such termination the Buyer shall receive a prompt return of the Earnest Money. Buyer shall notify Seller as to which option it elects within five (5) days prior to the Closing. If Buyer does not receive written notice of a Taking more than five (5) days prior to the Closing, the Closing Date shall be postponed to a date that is not less than five (5) days after Buyer's receipt of written notice of a Taking.

Section 2.06. Effect of Termination. Subject to Article V, upon the termination of this Agreement, the Title Company shall pay the Earnest Money to the appropriate party in accordance with the terms and conditions of this Agreement, and upon such payment being made the Parties shall have no further liability hereunder (except with respect to liabilities of Seller accruing prior to such termination and those obligations hereunder which survive the termination of this Agreement).

ARTICLE III
REPRESENTATIONS, WARRANTIES AND COVENANTS

Section 3.01 Representations, Warranties and Covenants of Seller. Seller hereby represents and warrants to Buyer that the facts recited below are true, complete and accurate as of the date hereof and will continue to be true, complete and accurate at Closing:

(a) Seller is a corporation duly formed and in good standing under the laws of the State of California, is qualified to conduct business in the State of California and has the requisite power and authority to enter into and to perform the terms of this Agreement without obtaining any further consents or approvals from, or the taking of any other actions with respect to, any third parties. Seller to the best of its knowledge is not subject to any law, order, decree, restriction or agreement that prohibits or would be violated by this Agreement or the consummation of the transactions contemplated hereby. The execution and delivery of this Agreement and the consummation of the transaction contemplated hereby have been duly authorized by all requisite action of Seller. This Agreement constitutes, and each document and instrument contemplated hereby to be created and delivered by Seller, when executed and delivered, shall constitute the legal, valid, and binding obligation by Seller, enforceable against Seller in accordance with its respective terms (subject to bankruptcy, reorganization and other similar laws affecting the enforcement of creditors' rights generally).

(b) Neither the execution, delivery and performance of this Agreement, nor the consummation of the transactions contemplated hereby is in violation of any other agreement executed by Seller, is prohibited by, or requires Seller to obtain any consent, authorization, approval or registration under any law, statute, rule, regulation, judgment, order, writ, injunction or decree which is binding upon Seller, other than any regulatory approvals disclosed in writing to Buyer.

(c) Seller has and will have at Closing good, merchantable, and insurable title, in fee simple, to the Property, free and clear of all mortgages, liens, claims, or other encumbrances (except those required by the Title Company in the Title Commitment to be fully satisfied with the Purchase Price at the Closing).

(d) To be best of Seller's Knowledge there are no pending or threatened condemnation, liens, claims, other encumbrances, special assessments, or similar proceedings or charges affecting the Property or Seller by any governmental authority.

(e) Seller is not a foreign corporation, foreign partnership, foreign trust, or foreign estate, or non-resident alien for purposes of US income taxation, pursuant to Section 1445 of the Internal Revenue Code.

(f) Seller has not: (i) filed any voluntary or had involuntarily filed against it in any court or with any governmental body pursuant to any statute either of the United States or of any State, a petition in bankruptcy or insolvency or seeking to effect any plan or other arrangement with creditors, or seeking the appointment of a receiver; (ii) had a receiver, conservator or liquidating agent or similar person appointed for all or a substantial portion of its assets; (iii) suffered the attachment or other judicial seizure of all, or substantially all of its assets; (iv) given notice to any person or governmental body of insolvency; or (v) made an assignment for the benefit of its creditors or taken any other similar action for the protection or benefit of its creditors. Seller is not insolvent and will not be rendered insolvent by the performance of its obligations under this Agreement.

(g) There are no leases affecting any portion of the Property except such leases disclosed to Buyer in writing by Seller and there are no options, rights of first refusal or contracts granting any rights to acquire any right, title or interest in any portion of the Property, except as listed in the Title Commitment, if any.

(h) Seller has not received any notice of any violation of any ordinance, regulation, law or statute of any government agency or instrumentality pertaining to the Property and/or the System or any portion thereof which has not been complied with in all respects.

(i) There is no action, suit, proceeding or claim affecting Seller, the Property and/or the System, relating to or arising out of any lease, option or contract affecting the Property or the System, or the ownership, operation, use or occupancy of the Property or the System, pending or being prosecuted in any court or by or before any agency or other governmental instrumentality nor, to the best of Seller's Knowledge, has any such action, suit, proceeding or claim been threatened or asserted. There is no proceeding pending or presently being prosecuted in connection with the assessed valuation or taxes of other impositions payable in respect of any portion of the Property.

(j) No work has been performed or is in progress at, and no materials have been furnished to, the Property which might give rise to mechanic's, materialman's or other liens against the Property.

(k) The Property currently has or will have at Seller's sole cost and expense prior to the Closing cross access and easements rights and benefits providing pedestrian and vehicular access to and from the Property and all components within the System necessary to operate the same.

(l) The buildings and improvements, if any, that constitute part of the Immovable Property are structurally sound and there are no defects known to Seller that have not been disclosed to the Buyer in writing by Seller.

(m) To the best of Seller's Knowledge, there are no pending or contemplated zoning changes, variances, special zoning exceptions, conditions or agreements affecting, or potentially affecting the Property or any part thereof.

(n) To the best of Seller's knowledge, and except as has been disclosed to Buyer in writing by Seller, the Property complies with all applicable laws of all governmental or quasi-governmental authorities having jurisdiction over, against or affecting the Property. Seller has not received written notice of any, and there are no violations of any laws, similar rules and regulations relating and/or applicable to the ownership, use and operation of

the Property as it is now operated, and/or other licenses or permits, which remain uncured. All governmental or quasi-governmental occupancy and use permits, licenses, consents, approvals, permits, authorizations, certificates, and other requirements of the authorities necessary or required for the continued use and operation of the System and/or the Property for the purposes for which the same are intended (collectively, "*Approvals*"), if any, have been unconditionally and finally issued and paid for and are in full force and effect in accordance with the respective terms thereof. All work or conditions required to be performed or fulfilled pursuant to the Approvals (on or off-site) have been fully performed in accordance with the requirements thereof and the Property fully complies with the Approvals.

(o) To the best of Seller's Knowledge, there is no fact or condition which materially and adversely affects the business, operations, affairs, properties or condition of Seller or the Property, which has not been set forth in this Agreement or in the other documents, certificates or written statements furnished to Buyer in connection with the transactions contemplated hereby.

(p) To the best of Seller's Knowledge, no representation or warranty made by Seller in this Agreement, in any Exhibit attached hereto, or in any letter or certificate furnished to Buyer pursuant to the terms hereof, each of which is incorporated herein by reference and made a part hereof, contains any untrue statement of a fact or omits to state a fact necessary to make the statements contained herein or therein not misleading.

(q) Environmental Matters.

(i) Except as disclosed on the attached **EXHIBIT E**, to be attached hereto at least thirty (30) days prior to the conclusion of the Feasibility Period and made a part hereof, to the best of Seller's Knowledge, the Property is currently and has been in compliance with all Environmental Laws (as defined below) and Seller has not received any: (i) Environmental Notice (as defined below) or Environmental Claim (as defined below); or (ii) written request for information pursuant to Environmental Law, which, in each case, either remains pending or unresolved, or is the source of ongoing obligations or requirements as of the Closing.

(ii) Except as disclosed on the attached **EXHIBIT F**, to be attached hereto at least thirty (30) days prior to the conclusion of the Feasibility Period and made a part hereof, to the best of Seller's Knowledge, Seller has obtained and is in material compliance with all Environmental Permits (as defined below) (each of which is disclosed on **EXHIBIT F**) necessary for operating the System or use of the Property and all such Environmental Permits are in full force and effect and shall be maintained in full force and effect by Seller through the Closing in accordance with Environmental Law, and Seller is not aware of any condition, event or circumstance that might prevent or impede, after the Closing, the operation of the System as currently conducted or the ownership, lease, operation or use of the Property. With respect to any such Environmental Permits, Seller has undertaken, or will undertake prior to the Closing, all measures necessary to facilitate transferability of the same, and Seller is not aware of any condition, event or circumstance that might prevent or impede the transferability of the same and has not received any Environmental Notice or written communication regarding any material adverse change in the status or terms and conditions of the same.

(iii) None of the Property is listed on, or to the best of Seller's Knowledge, has been proposed for listing on, the National Priorities List (or CERCLIS) under CERCLA (as defined below), or any similar state list.

(iv) To the best of Seller's Knowledge, there has been no Release of Hazardous Materials (as defined below) in contravention of Environmental Law with respect to the Property or any real property currently or formerly owned, leased or operated by Seller in connection with the System, and Seller has not received an Environmental Notice that any of the Property or real property currently or formerly owned, leased or operated by Seller in connection with the System (including soils, groundwater, surface water, buildings and other structure located thereon) has been contaminated with any Hazardous Material which could reasonably be expected to result in an Environmental Claim against, or a violation of Environmental Law or term of any Environmental Permit by, Seller.

(v) To the best of Seller's Knowledge, no underground storage tanks are located on the Immovable Property and no construction debris has been buried on or under the Immovable Property.

(vi) **EXHIBIT G**, to be attached hereto at least thirty (30) days prior to the conclusion of the Feasibility Period and made a part hereof, contains a complete and accurate list of all off-site Hazardous Materials treatment, storage, or disposal facilities or locations used by Seller and, to the best of Seller's Knowledge, any predecessors in connection with the System or the Property as to which Seller may retain liability, and none of these facilities or locations has been placed or proposed for placement on the National Priorities List (or CERCLIS) under CERCLA, or any similar state list, and Seller has not received any Environmental Notice regarding potential liabilities with respect to such off-site Hazardous Materials treatment, storage, or disposal facilities or locations used by Seller.

(vii) Seller has not retained or assumed, by contract or operation of Law, any liabilities or obligations of third parties under Environmental Law.

(viii) Seller has provided or otherwise made available to Buyer, within thirty (30) days of the Effective Date, and listed in **EXHIBIT H**, to be attached hereto within thirty (30) days of the Effective Date and made a part hereof: (i) any and all environmental reports, studies, audits, records, sampling data, site assessments, risk assessments, economic models and other similar documents with respect to the Property or any real property currently or formerly owned, leased or operated by Seller in connection with the System which are in the possession or control of Seller related to compliance with Environmental Laws, Environmental Claims or an Environmental Notice or the Release of Hazardous Materials; and (ii) any and all material documents concerning planned or anticipated capital expenditures required to reduce, offset, limit or otherwise control pollution and/or emissions, manage waste or otherwise ensure compliance with current or future Environmental Laws (including, without limitation, costs of remediation, pollution control equipment and operational changes).

(ix) Seller is not aware of nor reasonably anticipates, as of the Closing, any condition, event or circumstance concerning the Release or regulation of Hazardous Materials that might, after the Closing, prevent, impede or materially increase the costs associated with the ownership, lease, operation, performance or use of the System and Property as currently carried out.

Section 3.02 Covenants of Seller.

(a) Seller will own, operate, use and manage the System and the Property only in the ordinary course of business consistent with past practice and in any event will ensure that, any provisions of this Agreement to the contrary notwithstanding, (i) the physical and environmental condition of the Property is the same at the time of the Closing as it is as of the Effective Date, only ordinary wear and tear as to the physical condition excepted, and (ii) Seller's title to the Immovable Property and the survey condition of the Immovable Property is the same at the time of the Closing as it is as of the Effective Date, only improvements to the title condition or survey condition performed or undertaken by Seller to address Unacceptable Exceptions excepted.

(r) Seller shall maintain current hazard insurance in force on the Property until the Closing Date. The risk of loss to the Property shall not pass to Buyer unless and until delivery of possession of the Property is delivered to Buyer. If an event of casualty occurs to the Property prior to Closing, the Buyer may elect to either move to Closing and accept any insurance proceeds and deductible, plus an assignment of all of Seller's right, title, and interest in and to any and all insurance claims, as full satisfaction for the damage to the Property or the Buyer may terminate this Agreement. Buyer shall notify Seller as to which option it elects within five (5) days prior to the Closing, but if Buyer does not receive written notice of such casualty more than five (5) days prior to the Closing, the Closing Date shall be postponed to a date that is not less than five (5) days after Buyer's receipt of written notice of such casualty.

(s) Seller agrees to execute any documents required by the controlling governing authority to replat or rezone the Property.

(t) Seller agrees that from the Effective Date until either the termination of this Agreement or until after the Closing that Seller will not file any notices, requests, compliance documents, pleadings, or any other documents with any governmental or quasi-governmental authority that has jurisdiction over Seller in the operation, regulation or oversight of the System or any other endeavors of Seller (whether related to the System or not) without first providing at least ten (10) days prior notice to the Buyer for review and comment on such filing. In addition, Seller agrees to comply with all reasonable requests to participate in and to reply with requests from either Buyer or any governmental or quasi-governmental authority that has jurisdiction over Seller in the operation, regulation or oversight of the System or any other endeavors of Seller (whether related to the System or not) in order to facilitate approval from such authorities to transfer the System to Buyer.

Section 3.03. Certain Definitions.

The following definitions apply in this Agreement:

(a) "*CERCLA*" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. §§ 9601 et seq.

(b) "*Environmental Claim*" means any action, governmental order, lien, fine, penalty, or, as to each, any settlement or judgment arising therefrom, by or from any person alleging liability of whatever kind or nature (including liability or responsibility for the costs of enforcement proceedings, investigations, cleanup, governmental response, removal or remediation, natural resources damages, property damages, personal injuries, medical monitoring, penalties, contribution, indemnification and injunctive relief) arising out of, based on or resulting from: (a) the presence, Release (as defined below) of, or exposure to, any Hazardous Materials; or (b) any actual or alleged non-compliance with any Environmental Law or term or condition of any Environmental Permit.

(c) "*Environmental Notice*" means any applicable law, and any governmental order or binding agreement with any governmental authority: (a) relating to pollution (or the cleanup thereof) or the protection of natural resources, endangered or threatened species, human health or safety, or the environment (including ambient air, soil, surface water or groundwater, or subsurface strata); or (b) concerning the presence of, exposure to, or the management, manufacture, use, containment, storage, recycling, reclamation, reuse, treatment, generation, discharge, transportation, processing, production, disposal or remediation of any Hazardous Materials.

(d) "*Environmental Laws*" means any written directive, notice of violation or infraction, or notice respecting any Environmental Claim relating to actual or alleged non-compliance with any Environmental Law or any term or condition of any Environmental Permit. The term "Environmental Laws" includes, without limitation, the following (including their implementing regulations and any state analogs): the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. §§ 9601 et seq.; the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. §§ 6901 et seq.; the Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977, 33 U.S.C. §§ 1251 et seq.; the Toxic Substances Control Act of 1976, as amended, 15 U.S.C. §§ 2601 et seq.; the Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. §§ 11001 et seq.; the Clean Air Act of 1966, as amended by the Clean Air Act Amendments of 1990, 42 U.S.C. §§ 7401 et seq.; and the Occupational Safety and Health Act of 1970, as amended, 29 U.S.C. §§ 651 et seq.

(e) "*Environmental Permits*" means any permit, letter, clearance, consent, waiver, closure, exemption, decision or other action required under or issued, granted, given, authorized by or made pursuant to Environmental Law.

(f) "*Hazardous Materials*" means: (a) any material, substance, chemical, waste, product, derivative, compound, mixture, solid, liquid, mineral or gas, in each case, whether naturally occurring or manmade, that is hazardous, acutely hazardous, toxic, or words of similar import or regulatory effect under Environmental Laws; and (b) any petroleum or petroleum-derived products, radon, radioactive materials or wastes, asbestos in any form, lead or lead-containing materials, urea formaldehyde foam insulation and polychlorinated biphenyls.

(g) "*Knowledge*" or "*Seller's Knowledge*" means the actual knowledge of Seller and each of Seller's Representatives; in each case, after due inquiry.

(h) "*Release*" means any actual or threatened release, spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, abandonment, disposing or allowing to escape or migrate into or through the environment (including, without limitation, ambient air (indoor or outdoor), surface water, groundwater, land surface or subsurface strata or within any building, structure, facility or fixture).

(i) "*Representatives*" in relation to a person means such person's managers, shareholders, members, officers, directors, employees, agents, advisors, affiliates, successors, and permitted assigns and for the avoidance of doubt the Representatives of Seller.

Section 3.04 Indemnification. From and after the Closing, Seller shall defend, hold harmless and indemnify the Buyer and/or Buyer's Representatives (as defined below) (collectively, "*Indemnified Party*") from and against any and all losses, damages, diminutions in value, liabilities, deficiencies, claims, actions, judgements, settlements, interest, awards, penalties, fines, costs, or expenses of any kind, including professional fees and attorneys' fees, that are suffered or incurred by the Indemnified Party or to which the Indemnified Party may otherwise become subject to at any time (collectively, "*Losses*") arising out of or as a result of: (i) any inaccuracy in or breach of any representation, warranty and/or covenant made by Seller in this Agreement; (ii) any breach or non-fulfillment of any covenant, agreement or obligation to be performed by Seller pursuant to this Agreement; (iii) any actual or alleged liability of Seller and/or Seller's Representatives, or any actual or alleged liability of Buyer that derives from any such liability of Seller and/or Seller's Representatives, whether such liability arises before or after the Closing; and (d) any claim by a third party based upon, resulting from or arising out of (A) the business, operations, properties, assets or obligations of Seller conducted, existing or arising on or prior to the Closing; (B) any inaccuracy in or breach of any representation or warranty made by Seller in this Agreement, or any breach or non-fulfillment of any covenant, agreement or obligation to be performed by Seller pursuant to this Agreement; (C) any negligent or more culpable act or omission of Seller or its Representatives (including any reckless or willful misconduct) in connection with the performance of its obligations under this Agreement; or (D) any failure by Seller or its Representatives to comply with any applicable federal, state or local laws, regulations or codes in the performance of its obligations under this Agreement. Notwithstanding anything to the contrary in this Agreement, Seller is not obligated to indemnify, hold harmless, or defend Indemnified Party against any claim (whether direct or indirect) if such claim or corresponding Losses arise out of or result from Indemnified Party's gross negligence or more culpable act or omission (including recklessness or willful misconduct).

Section 3.05 Representations, Warranties and Covenants of Buyer.

Buyer hereby represents and warrants to Seller that the facts recited below are true, complete and accurate as of the date hereof and will continue to be true, complete and accurate at the Closing:

(a) Buyer is a corporation duly formed and in good standing under the laws of the State of Missouri, and has the requisite power and authority to enter into and to perform the terms of this Agreement without obtaining any further consents or approvals from, or the taking of any other actions with respect to, any third parties. Buyer is not subject to any law, order, decree, restriction or agreement that prohibits or would be violated by this Agreement or the consummation of the transactions contemplated hereby. The execution and delivery of this Agreement and the consummation of the transaction contemplated hereby have been duly authorized by all requisite action of Buyer. This Agreement constitutes, and each document and instrument contemplated hereby to be created and delivered by Buyer, when executed and delivered, shall constitute the legal, valid, and binding obligation by Buyer, enforceable against Buyer in accordance with its respective terms (subject to bankruptcy, reorganization and other similar laws affecting the enforcement of creditors' rights generally).

(u) Neither the execution, delivery and performance of this Agreement, nor the consummation of the transactions contemplated hereby is in violation of any other agreement executed by Buyer, is prohibited by, or requires Buyer to obtain any consent, authorization, approval or registration under any law, statute, rule, regulation, judgment, order, writ, injunction or decree which is binding upon Buyer, other than any regulatory approvals disclosed in writing to Seller.

ARTICLE IV
CLOSING

Section 4.01 Closing.

(a) Subject to the terms and conditions of this Agreement, the Closing of the purchase and sale of the Property pursuant to this Agreement (the *"Closing"*) shall take place at the Title Company forty-five (45) days after the later of the expiration of the Feasibility Period and the approval by any regulatory bodies in a form satisfactory to Buyer as set forth in more detail in Section 2.05(a), or (i) such earlier date as is elected by Buyer by giving not less than three (3) days prior notice to Seller, or (ii) such later date as agreed in writing by Seller and Buyer (the *"Closing Date"*).

(b) At the Closing, Seller shall deliver to Buyer the following:

(i) A certificate of good standing for Seller plus the requisite duly executed corporate approvals for the sale;

(ii) A general warranty deed in executed form, conveying good, merchantable, and insurable title in fee simple to all of the Immovable Property, free and clear of any and all mortgages, liens, encumbrances, claims, conditions, easements, assessments, and restrictions, except for the Permitted Exceptions, if any;

(iii) A duly executed bill of sale, conveying all of the Movable Property described in **EXHIBIT B**, free and clear of any and all mortgages, liens, claims, restrictions, and encumbrances;

(iv) A duly executed termination of lease, terminating any existing lease agreements encumbering or relating to the Property;

(v) A duly executed assignment of any interest in any other Property used and/or useful in the operation of the System that is owned by Seller;

(vi) Such other instruments and documents that are customarily executed by a seller of immovable property in the county in which the Property is located, including, but not limited to, resolutions or unanimous written consents of the Board of Directors of Seller, and if required the shareholders of Seller, to authorize the sale of the Property to Buyer pursuant to this Agreement;

(vii) Tax statements for calendar year of the Closing;

(viii) Possession of the Property;

(ix) If requested by Buyer, and to the extent assignable, duly executed, conveyances and assignments to Buyer of any and all consents, authorizations, variances, waivers, licenses, permits, and approvals from any federal, state, county, municipal, or other governmental or quasi-governmental agency, department, board, commission, bureau, or other entity or instrumentality relating to the Property, including, without limitation, those relating to environmental, foundation, use, utilities, building, fire, traffic, and zoning heretofore or hereafter held by or granted to Seller (collectively, the "*Approvals*"). No additional consideration shall be due by Buyer for the Approvals, it being understood and agreed by Seller that the Purchase Price covers the Property, the Approvals, and the Claims (as hereinafter defined); and

(x) If requested by Buyer, duly executed assignments to Buyer, with full substitution and subrogation, of any and all claims, actions, rights, causes of action, rights of action, and warranties, whether arising in contract, tort, or otherwise, including, but not limited to, environmental claims, actions, rights, causes of action, rights of action, and warranties, that Seller has or may have against any and all persons and entities as a result of any apparent or non-apparent damage to, destruction of, or diminution in value of the Property, or any part thereof, occurring prior to the Closing (collectively, the "*Claims*"). No additional

consideration shall be due by Buyer for the Claims, it being understood and agreed by Seller that the Purchase Price covers the Property, the Approvals, and the Claims.

(c) At the Closing, Buyer shall deliver to Seller the following:

(i) The Purchase Price; and

(ii) Such other instruments and documents that are customarily executed by a buyer of immovable property in the county in which the Property is located.

Section 4.02 Closing Costs and Prorations. Buyer and Seller hereby covenant and agree that:

(a) Seller shall pay the costs of any roll back taxes, one-half (1/2) of the escrow fee charged by the Title Company, and Seller's attorneys' fees and expenses. Seller shall also pay all fees, costs, and expenses for title curative work and any other work that Seller agrees to perform or undertake in order to address any Unacceptable Exceptions and/or to otherwise enable Seller to sell and deliver to Buyer good, merchantable, and insurable fee simple title to the Property as required by this Agreement.

(b) Buyer shall pay all remaining title fees charged by the Title Company, recording fees, and Buyer's attorneys' fees.

(c) All ad valorem real estate taxes and assessments levied or assessed against the Property shall be prorated according to the calendar year as of the Closing Date, based on the most recent tax bill and assessments levied for the same.

ARTICLE V
DEFAULTS AND REMEDIES

Section 5.01 Buyer's Default and Seller's Remedies.

(a) Buyer's Default. Buyer shall be in default under this Agreement if and only if any and all conditions to be satisfied under the terms of this Agreement prior to the Closing have been satisfied (or duly waived) and Buyer fails or refuses to perform Buyer's obligations at the Closing for any reason other than a default by Seller. For the avoidance of doubt, a termination under Section 2.04 will not constitute an event of default by Buyer.

(b) Seller's Remedies. If Buyer is in default under this Agreement, the sole and exclusive remedy of Seller, shall be receipt of the Earnest Money. Buyer and Seller agree that in such case the Earnest Money shall be liquidated or stipulated damages under California law for a breach or default by Buyer under this Agreement and/or any other actions or claims that could arise out of or are related to this Agreement because of the difficulty, inconvenience, and uncertainty of ascertaining actual damages for such default. Therefore, in no event shall Buyer be liable for or Seller be entitled to any actual damages or any other type of damages or remedy under any action or claim that could arise out of or that could any way relate to this Agreement other than the right to receive the stipulated amount of the Earnest Money as full satisfaction of Seller's claims.

Section 5.02 Seller's Defaults and Buyer's Remedies.

(a) Seller's Defaults. Seller shall be in default under this Agreement on the occurrence of any of one or more of the following events:

(i) Any breach of a representation or warranty made by Seller in this Agreement or failure of any such representation or warranty to be true, accurate and complete; or

(ii) Any breach or non-fulfillment of any covenant, agreement or obligation to be performed by Seller pursuant to this Agreement.

(b) Buyer's Remedies. If Seller defaults under this Agreement (whether before or after the Closing or before termination or after termination in relation to provision that survive termination) Buyer may:

(i) If such default is identified prior to the Closing, terminate this Agreement by written notice to Seller and Title Company, in which event the Title Company shall promptly refund the Earnest Money to Buyer;

(ii) Enforce specific performance of this Agreement against Seller; and/or

(iii) Pursue such other remedies as may be available at law or in equity, including a suit for any damages and the right to recover attorneys' fees and costs.

Section 5.03 Attorneys' Fees. If either party defaults under this Agreement, and the nondefaulting party employs an attorney to enforce the terms hereof, such nondefaulting party shall be entitled to reasonable attorneys' fees and costs from the defaulting party.

Section 5.04 Survival. The provisions of this Section 5 and of Article III, Article VI, Article VII shall survive the termination of this Agreement. The provisions of Article III shall survive the Closing for a period of five (5) years, except that the representations and warranties in Sections 3.01(a), (b), and (d), and Section 3.04 shall survive indefinitely. All other provisions of this Agreement shall survive Closing unless otherwise expressly stated.

ARTICLE VI
COMMISSIONS

Section 6.01 Commission. No commissions are due and/or owing for the procurement of this Agreement to any third parties. Seller shall defend, indemnify, and hold harmless Buyer from and against any and all claims by any person or entity for brokerage fees, brokerage commissions, finder's or other fees, which shall include, but shall not be limited to, any and all court costs, attorneys' fees and other costs and expenses relating thereto, alleged to be due to any broker and/or agent with whom Seller has dealt in connection with this Agreement or the sale of the Property to Buyer, and Buyer shall defend, indemnify, and hold harmless Seller from and against any and all claims by any person or entity for brokerage fees, brokerage commissions, finder's or other fees, which shall include, but shall not be limited to, any and all court costs, attorneys' fees and other costs and expenses relating thereto, alleged to be due to any broker and/or agent with whom Buyer has dealt in connection with this Agreement or the purchase of the Property by Buyer.

ARTICLE VII
MISCELLANEOUS PROVISIONS

Section 7.01 Effective Date of Agreement. The term "Effective Date" as used herein shall mean the date this Agreement has been fully executed by Seller and Buyer, as indicated by their signatures below, and a signed copy thereof is delivered to and acknowledged by the Title Company.

Section 7.02 Notices. All notices, demands and requests which may be given or which are required to be given by either party to the other, and any exercise of a right of termination provided by this Agreement, shall be in writing and shall be deemed effective when sent to the address or telecopy number of the party to receive such notice set forth below if effected by telecopy, e-mail or other electronic transmission, hand delivery, by Federal Express or other reputable courier service, or when deposited in any post office or mail receptacle regularly maintained by the United States Government, certified or registered mail, return receipt requested, postage prepaid, addressed as follows:

If to Buyer:

Josiah M. Cox, President
Central States Water Resources, Inc.
1630 Des Peres Road, Suite 140
St. Louis, MO 63131

with a copy to:

James A. Beckemeier
Beckemeier LeMoine Law
13421 Manchester Rd., Suite 103
Saint Louis, Missouri 63131
Phone: (314) 965-2277
Facsimile: (314) 965-0127
E-mail: jim@bl-stl.com

If to Seller:

Thomas Moore, President
Big Basin Water Company Inc.
Big Basin Sanitation Company
PO Box 197
Boulder Creek, CA 95006
Phone: (831) 252-3478
Facsimile:_____
E-Mail: sjm16595@gmail.com

with a copy to:

_____
_____
Phone:_____
Facsimile:_____
E-Mail:_____

Section 7.03 Governing Law. THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF CALIFORNIA AND ALL PROCEEDINGS OR OBLIGATIONS HEREUNDER SHALL BE MADE AND ARE PERFORMABLE IN SANTA CRUZ COUNTY, CALIFORNIA.

Section 7.04 Successors and Assigns. This Agreement shall apply to, inure to the benefit of and be binding upon and enforceable against the Parties hereto and their respective heirs, administrators, successors and assigns. Buyer shall have the right to assign this Agreement to another entity or affiliate by providing written notice to Seller of such assignment. However, Seller shall not have the right to assign this Agreement without the written consent of the Buyer.

Section 7.05 Counterparts and Amendments. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, and all of which shall constitute but one and the same instrument. This Agreement may only be amended by a written document signed by each of the Parties hereto, which document shall make specific reference to this Agreement.

Section 7.06 Time. Time is of the essence in the performance of each term, condition, and covenant contained in this Agreement. No extension of time for performance of any obligation or act shall be deemed an extension of time for performance of any other obligation or act. If any date for performance of any term, condition or provision hereof shall fall on a Saturday, Sunday or legal holiday, then the time of such performance shall be extended to the next business day.

Section 7.07 Severability. This Agreement is intended to be performed in accordance with, and only to the extent permitted by, all applicable laws, ordinances, rules and regulations. If any provision of this Agreement or the application thereof to any person or circumstance shall, for any reason and to any extent, be invalid or unenforceable, the remainder of this Agreement and the application of such provision to other persons or circumstances shall not be affected thereby but shall be enforced to the greatest extent permitted by law.

Section 7.08 Entire Agreement. Buyer and Seller each acknowledges and agrees that at all times each have intended that none of the preliminary negotiations concerning this Agreement would be binding on any party. This Agreement and the Exhibits attached hereto prior to the Closing Date contain all the covenants, conditions, agreements and understandings between the Parties and shall supersede all prior covenants, conditions, agreements,

letters of intent, term sheets, and understandings between Seller and Buyer with respect to the purchase and sale of the Property and all other matters contained in this Agreement.

Section 7.09 Final Exhibits. The legal description of the Immovable Property contained in the Survey shall be substituted for the legal description of the Immovable Property used in **EXHIBIT A** as of the date hereof without the necessity of the Parties executing any additional amendments to this Agreement. **EXHIBIT C** shall be included as part of this Agreement when, and in the form, notified to Seller by Buyer in writing. **EXHIBIT D** shall be included as part of this Agreement if and when it is in the form, agreed by Seller and Buyer in writing prior to Closing. With regard to **EXHIBITS E, F, and G**, in the event Seller fails to provide a list of all relevant information for the respective Exhibit at least thirty (30) days prior to the end of the Feasibility Period, Buyer will assume there is no such relevant information and the respective Exhibit will be marked "None."

Section 7.10 Buyer Exchange. Seller and Buyer agree to cooperate should the other elect to purchase the Property or other real property as part of a like-kind exchange under IRC section 1031. Any contemplated exchange shall not impose upon the cooperating party any additional liability or financial obligation, and Buyer or Seller, as appropriate agrees to hold the other harmless from any liability that might arise from such exchange. This Agreement is not subject to or contingent upon either party's ability to acquire a suitable exchange property or effectuate an exchange. In the event any exchange contemplated by Buyer or Seller should fail to occur, for whatever reason, the sale of the Property shall nonetheless be consummated as provided herein.

Section 7.11 Rollback Taxes, Standby Fees and Special Assessments. If this sale results in the assessment after Closing of additional taxes, standby fees or special assessments for periods of Seller's ownership (including taxes assessed as a result of a change in ownership or usage), the additional taxes, fees or assessments plus any penalties and interest shall be paid by Seller to Buyer within fifteen (15) days of receipt by Buyer of a statement for such taxes, fees or assessments.

Section 7.12 Ambiguities Not to Be Construed against Party Who Drafted Agreement. The rule of construction that ambiguities in a document will be construed against the party who drafted it will not be applied in interpreting this Agreement.

Section 7.13 No Special Relationship. The Parties' relationship is an ordinary commercial relationship of seller and buyer, and they do not intend to create and have not created the relationship of principal and agent, partnership, joint venture, or any other special relationship.

Section 7.14 Confidentiality. The Parties will keep confidential this Agreement, this transaction, and all information learned in the course of this transaction, except to the extent disclosure is required by law or court order or to enable third parties to advise or assist Buyer to investigate the Property or either party to close this transaction.

Section 7.15 Business Day. As used in this Agreement, the term "business day" means Monday through Friday of each week, except for days on which banks in Santa Cruz County, California are closed for business. If the final date of any period which is set out in any section of this Agreement falls upon a day which is not a business day, then, and in such event, the time of such period will be extended to the next business day.

Section 7.16 Further Assurances. From the date hereof, Seller and Buyer each agrees to do such things, perform such acts and make, execute, acknowledge and deliver such documents as may be reasonably necessary and customary to complete the transactions contemplated by this Agreement. In particular, Seller and Buyer each agrees to do such things as may be reasonably necessary with respect to the transfer of the Property.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed under proper authority and effective and binding as of the date first set above.

BUYER:

CENTRAL STATES WATER RESOURCES, INC.,
a Missouri corporation

By: _____
Josiah Cox (Mar 10, 2023 07:29 PST)
Josiah M. Cox, President

SELLER:

BIG BASIN WATER COMPANY, INC.,
a California corporation

By: Thomas Moore
Thomas Moore, President
Name: _____

Title: President

RECEIPT OF EARNEST MONEY

The undersigned Title Company hereby acknowledges its receipt of an executed copy of this Agreement and, the Earnest Money provided herein and, further, agrees to comply with and be bound by the terms and provisions of this Agreement, without demand, including, without limitation, those terms relating to the disposition of the Earnest Money.

_____
Name of Title Company

By:

Name:

Title:

Date:

EXHIBIT A

Description of the Immovable Property

(The legal description(s) of the Land, Improvements thereon, Easements, & Rights of Way shall be determined by survey and title commitments, which shall be inserted prior to the Closing).

[TO BE INSERTED PRIOR TO CONCLUSION OF THE FEASIBILITY PERIOD]

The following described lots, tracts or parcels of land, lying, being and situate in the County of Santa Cruz State of California:

All interests in land used or useful in operation of the Water and Sewer Systems that services the area set forth on **EXHIBIT C**, including but not limited to easements, rights of way and permits, and including the real property described in a title commitment (such detail for said commitment to be substituted by Title Company when the commitment is issued as Commitment File No. [FILE NUMBER], issued by [TITLE COMPANY], as agent for [UNDERWRITER].

Upon receipt of a detailed description associated with the survey or surveys obtained by Buyer pursuant to Section 2.01 hereof, or any update thereto, the Title Company shall update the Commitment to modify the legal description of the Property to reference the description of the Property set forth in description (the "*New Legal Description*"). Seller and Buyer agree that the New Legal Description shall be the description of the Property contained in the transfer documents (as each are defined herein) delivered by Seller to Buyer at Closing and any other closing documents executed by the parties in connection with the Closing. Because Seller and Buyer desire this Agreement to provide for the right of enforcement, Seller and Buyer agree that: (i) they are experienced in transactions of this nature, (ii) they are familiar with the location of the Property, (iii) each party waives any and all claims of an insufficient legal description, including, but not limited to, any and all claims under the Statute of Frauds, and (iv) upon receipt of the New Legal Description, this Agreement shall be amended to substitute the New Legal Description of the Property for the description of the Property set forth in this Exhibit " A" to the Agreement.

EXHIBIT B

Description of the Movable Property

(tools, devices, equipment, furniture, fixtures, machinery, supplies, and other tangible items)

[TO BE PROVIDED BY SELLER PRIOR TO CONCLUSION OF THE FEASIBILITY PERIOD]

All Property set forth herein shall be transferred to Buyer free and clear of all liens, pledges, leases, options, rights of first refusal, conditional sales agreements or any other such encumbrances.

All personal property comprising the Sewer System that services the area set forth on **EXHIBIT C**, including but not limited to, the sewer lines, pipes, lagoon(s), treatment plant(s), pump/lift station(s), tanks, meters, valves, and any other appurtenances of the Sewer System, and all machinery, equipment, supplies and other tangible items used in connection with the Sewer System; AND All personal property comprising the Water System that services the area set forth on **EXHIBIT C**, including but not limited to, the water lines, pipes, wells, well house, tanks, pumps, meters, valves, and any other appurtenances of the Water System, and all machinery, equipment, supplies and other tangible items used in connection with the Water System.

Additional Personal Property	

EXHIBIT C

Service Area Map

(area in which the System service lines, plant, pipes, manholes, meters, lift or pump stations and appurtenances, utility facilities, etc. are located)

[SERVICE AREA MAP & LEGAL DESCRIPTION TO BE INSERTED PRIOR TO CLOSING]

EXHIBIT D
[Purchase Price Allocation]

[TO BE INSERTED PRIOR TO CLOSING]

EXHIBIT E

[Environmental Non-Compliance]

[TO BE PROVIDED BY SELLER THIRTY (30) DAYS PRIOR TO CONCLUSION OF THE FEASIBILITY PERIOD; IF NOT PROVIDED DURING THIS PERIOD, ASSUMED TO BE "NONE"]

EXHIBIT F

[List of Permits and Non-Compliance with Permits]

[TO BE PROVIDED BY SELLER THIRTY (30) DAYS PRIOR TO CONCLUSION OF THE FEASIBILITY PERIOD; IF NOT PROVIDED DURING THIS PERIOD, NON-COMPLIANCE WILL BE ASSUMED TO BE "NONE"]

EXHIBIT G
[Off-site Hazardous Materials Locations]

[TO BE PROVIDED BY SELLER THIRTY (30) DAYS PRIOR TO CONCLUSION OF THE FEASIBILITY PERIOD; IF NOT PROVIDED DURING THIS PERIOD, ASSUMED TO BE "NONE"]

EXHIBIT H

[Reports, Studies, Audits, Records, Data, Site Assessment, Economic Models, etc.]

[TO BE PROVIDED BY SELLER WITHIN THIRTY (30) DAYS OF THE EFFECTIVE DATE; IF NOT PROVIDED DURING THIS PERIOD, ASSUMED TO BE "NONE"]

signed purchase agreement

Final Audit Report 2023-03-10

Created:	2023-03-10
By:	Kimberly Faulkner (kfaulkner@cswrgroup.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAATIkrHFsCnWLbGgftlf2vWDd6To6fjJle

"signed purchase agreement" History

Document created by Kimberly Faulkner (kfaulkner@cswrgroup.com)
2023-03-10 - 10:14:49 AM GMT- IP address: 68.3.235.228

Document emailed to Josiah Cox (jcox@cswrgroup.com) for signature
2023-03-10 - 10:15:27 AM GMT

Email viewed by Josiah Cox (jcox@cswrgroup.com)
2023-03-10 - 3:29:27 PM GMT- IP address: 104.47.66.126

Document e-signed by Josiah Cox (jcox@cswrgroup.com)
Signature Date: 2023-03-10 - 3:29:51 PM GMT - Time Source: server- IP address: 107.127.21.36

Agreement completed.
2023-03-10 - 3:29:51 PM GMT

EXHIBIT W

From: Graff, Kyle@Waterboards
To: Enrique Chavez, Jr.; Weininger, Jonathan@Waterboards
Cc: Jake Freeman
Subject: RE: CA_Big Basin Correspondence
Date: Friday, April 28, 2023 9:26:47 AM
Attachments: TMF Assessment.doc
image001.png
image002.png
image003.png
image004.png
Well_Data_Sheet.xls
A6 - Chlorination Data Sheet.doc
Tank Data Sheet.docx
Booster Station Data Sheet - Copy.docx
2022.02.02 Statewide ENP-Santa Cruz County.pdf
rTCR BSSP Small Systems-GW C & NTNC-Santa Cruz.docx
DBPR Compliance Monitoring Plan.docx
image005.jpg

Hello Enrique and Jake,

As we previously discussed, this email contains the list of documentation and information required for us to evaluate the permit request for the change of ownership for Big Basin Water Company (BBWC). This information must be submitted by a registered civil engineer in the State of California with experience in water supply engineering (California Code of Regulations, title 22, section 64552 (b)).

1. Completed Technical, Managerial, and Financial (TMF) Assessment Form (attached) and associated documentation.

2. If applicable: copy of the filed CEQA documentation and associated documentation.

3. Other Facility Requirements

- System map with facilities, pressure zones, etc.
- Well Data Sheet (template attached)
- Chlorination Data Sheet (attached)
- Completed Drinking Water Source Assessment Program documentation. Information and templates are found on the Divisions website at: http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/DWSAP.shtml
- Information on storage tanks including completed Tank Data Sheets (template attached) and piping schematic.
- Information about booster station and pressure tanks including completed Booster Station Data Sheets (template attached).
- List of backflow prevention assemblies and the most recent testing report. Installed backflow assemblies must comply with California Code of Regulations, title 17 requirements and be selected from the University of Southern California (USC) list of approved backflow prevention devices.
- Operations Plan including description of operational controls, system pressure, pressure zones, dead ends, system isolation valves, etc.

4. Completed Emergency Notification Plan (ENP) (attached)
5. Copy of the agreement between the water system and contract operator. The

agreement must include the contract operator duties and site visit frequency. The contract operator must have at least a D3 certification.

6. Bacteriological Sample Siting Plan (template attached) and map that clearly shows routine, repeat, and well locations.
7. Organizational Chart
8. Contact List
9. Copy of cross connection control operating rules or ordinance and name/qualifications of cross connection control coordinator.
10. Written summary of completed cross connection control survey.
11. Complaint Response Program – A Customer Complaint Program must be developed, and a copy of the program must be provided. The program must detail how complaints from BBWC customers will be received, tracked, responded to, and addressed.
12. Enforcement Actions – provide a compliance action plan with specific action items and deadlines that will be followed to address outstanding enforcement actions that have been issued to BBWC.
13. Optional: Updated Disinfection Byproducts Rule (DBPR) Compliance Monitoring Plan that complies with California Code of Regulations, title 22, Sections 64534.8 (a) and (e). A template is attached. *Note: Big Basin Water Company has an existing plan that must continue with any system manager. We will provide CSWR with a copy of that plan, at your request.*

Please let me know if you have any questions regarding this list. Thank you,

SWRCB_Logo1

Kyle Graff, P.E.

Water Resource Control Engineer
Division of Drinking Water
State Water Resources Control Board
1 Lower Ragsdale Dr, Bldg 1, Ste 120, Monterey, CA 93940
(831) 655-6935 | Kyle.Graff@Waterboards.ca.gov

From: Enrique Chavez, Jr. <echavez@cswrgroup.com>
Sent: Tuesday, April 25, 2023 8:59 AM
To: Weininger, Jonathan@Waterboards <Jonathan.Weininger@waterboards.ca.gov>
Cc: Jake Freeman <jfreeman@cswrgroup.com>; Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>
Subject: RE: CA_Big Basin Correspondence

EXTERNAL:

Jonathan,

Good feedback! I visited Big Basin last week and we determined that we would need anything available from DDW. Kimley-Horn is our third-party engineer assigned to BBWC and they are currently onsite performing the initial condition assessment reporting.

If you any additional information with regards to permitting, compliance and water rights in CA, feel free to share that information.

Thank you,

If you have any comments, questions and/or concerns, feel free to contact me at your earliest convenience,

Enrique Chavez Jr.
Program & Compliance Manager
Email: echavez@cswrgroup.com
Office: (314) 380-8043
Mobile: (314) 437-5714

From: Weininger, Jonathan@Waterboards <Jonathan.Weininger@waterboards.ca.gov>
Sent: Monday, April 24, 2023 4:56 PM
To: Enrique Chavez, Jr. <echavez@cswrgroup.com>
Cc: Jake Freeman <jfreeman@cswrgroup.com>; Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>
Subject: RE: CA_Big Basin Correspondence

Hi Enrique, sorry for the delayed response.

We are planning to send something to CSWR this week about the documents required for a change of ownership permit application. We are still running at a delay due to emergency response.

Included in this email are the enforcement actions that are still current. DDW has issued Big Basin Water Co. a total of 10 enforcement actions since 2019; some of these enforcement actions are considered closed following monitoring and other actions done by BBWC.

Do you need any other documents?

Can you please include Kyle Graff on all correspondence? Kyle is the DDW engineer assigned to Big Basin Water Company.

Thanks,
Jonathan Weininger

From: Enrique Chavez, Jr. <echavez@cswrgroup.com>
Sent: Friday, April 21, 2023 11:40 AM
To: Weininger, Jonathan@Waterboards <Jonathan.Weininger@waterboards.ca.gov>
Cc: Jake Freeman <jfreeman@cswrgroup.com>
Subject: CA_Big Basin Correspondence

EXTERNAL:

Jonathan,

Per our conversation during the meeting between CSWR and CAWB, I was wondering if you can send me the documentation and non-compliance correspondence sent to Big Basin Water Co. I met the current owner yesterday and performed a site visit. My third party engineering firm plans to be on-site next week and I would very much like to have any available documents for CAWB.

If you have any comments, questions and/or concerns, feel free to contact me at your earliest convenience,

Enrique Chavez Jr.
Program & Compliance Manager
Email: echavez@cswrgroup.com
Office: (314) 380-8043
Mobile: (314) 437-5714

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER
STORAGE TANK DATA SHEET

System Name:_____ **System No.:**_____
Source of Information:_____
Collected by:_____ **Date:**_____

Number or Name:	
Date constructed/refurbished:	
Purpose (storage, etc.):	
Capacity (Design and Operating):	
Location (specific):	
Cross-Street:	
Controlled Access:	
Lot Dimensions:	
Fencing Type:	
Construction: Material:	
Sides:	
Floor:	
Cover or roof:	
Type of Interior Coating:	
Height of tank walls above ground (ft):	
Dimensions (ft):	
Tank Bottom Elevation (ft):	
Surface drainage to tank possible?	
Ventilation:	
Screening:	
Cathodic Protection?	
Inlet & Outlet Arrangement:	
Inlet Type/size: Location:	
Inlet: Distance above bottom:	
Outlet type/size: Distance from inlet:	
Outlet: Distance above bottom:	
Drain to where:	
Drain distance above floor	
Overflow to where:	
Overflow height (ft):	
Overflow/Drain air gap to discharge?	
Estimated maximum residence time?	
Relation to system: Inlet receives from:	
Outlet delivers to:	
Pressure Zone Served:	
Tank Maintenance:	
Inspection Frequency?	
Defects, Remarks, or Other Comments: (Include statements on cleaning practices, condition of structure, overflow condition, etc.)	

BACTERIOLOGICAL SAMPLE SITING PLAN (BSSP)
Groundwater Systems

Water System Information

Water System Name: **Click here to enter text.**

System Number: CA **Click here to enter text.**

Water System Classification:

☐**Community** ☐**Nontransient-Noncommunity**

Seasonal Water System?: ☐ **NO** ☐**YES***

***Refer to your Start-up/Shut-down Procedure Document for special monitoring requirements.**
***Seasonal Operational Period:** Click here to enter text.

Physical Address:Click here to enter text.

Mailing Address: Click here to enter text.

Water System Ph. No.: Click here to enter text. Fax: Click here to enter text.

Email Address: Click here to enter text.

No. of Service Connections: Click here to enter text.

Population Served: Click here to enter text.

Person responsible to report coliform-positive samples to the DDW Monterey District Office:
Click here to enter text.

Day/Evening Phone No: Click here to enter text.

Water System #:

Sample Collection Information

Name of Trained Sampler(s): Click here to enter text.

Sampler Phone No.: Click here to enter text.

Name of Analyzing Laboratory: Click here to enter text.

Mailing Address: Click here to enter text.

State Lab Code: Click here to enter text. Phone #: Click here to enter text.

Fax #: Click here to enter text.

Email Address: Click here to enter text.

Laboratory was sent a copy of BSSP: ☐Yes ☐No

Distribution System Sampling Frequency

The water system is required to collect a minimum of **Click here to enter text.** routine bacteriological sample(s) every MONTH

Is the water system served by more than one pressure zone or separate service areas?

☐ **NO** ☐**YES**

Water System #:

Raw Water Sampling

Does the water system provide continuous disinfection treatment (i.e. chlorine, UV, etc.)?

☐ Yes ☐ No

Water systems that provide continuous disinfection treatment are required to take bacteriological samples prior to disinfection (raw water samples) for all sources on a ☐**quarterly** or ☐**monthly** frequency and analyze for total coliform.

List the source(s) with disinfection treatment and the months when raw water samples will be taken.

1. **Source Name**

Months sampled: ☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

2. **Source Name**

Months sampled: ☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

3. **Source Name**

Months sampled: ☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

Map of System

A map of the distribution system is required to show all routine sample locations, follow-up (repeat) sample locations, source location (well, spring, etc.), storage tanks, treatment facilities, and distribution piping (pressure zones, booster stations, pressure reducing stations, and dead ends).

A distribution map is attached: ☐ Yes ☐ No

Consecutive Water System (if applicable under the Ground Water Rule)

Does the water system obtain groundwater from another water system? ☐ Yes ☐ No

If yes, contact the wholesaler within 24 hours of notification of a TC+ Distribution Sample.

Wholesaler Name: **Click here to enter text.**

Contact: Click here to enter text. Phone No.: Click here to enter text.

Wholesaler Water System (if applicable under the Ground Water Rule)

Does the water system provide groundwater to another water system? ☐ Yes ☐ No

If yes, collect a raw water source sample(s) within 24 hours upon being notified by a retailer who received a TC+ sample. If source sample is *E. coli* positive, contact all consecutive systems within 24 hours*.

Retailer Name: Click here to enter text.

Contact: Click here to enter text. Phone No.: Click here to enter text.

Retailer Name: Click here to enter text.

Contact: Click here to enter text. Phone No.: Click here to enter text.

A Tier 1 notice is required for all E.coli positive source samples.

Water System #:

Sample Locations

The following describes each routine sample location, what months the location will be sampled, and where follow-up (repeat) samples will be taken in the event of a "positive" routine sample. A routine sample site must be designated for each pressure zone or separate area served by the water system. The routine samples sites must be rotated such that they are all sampled on a regular basis. If this water system must designate more than one routine sample site, please do so below:

A system using ground water must collect the triggered source sample(s) for Ground Water Rule compliance (in accordance with the approved Representative Monitoring Plan or sample all sources in use if there is no approved Representative Monitoring Plan). A system using a single groundwater (not GWUDI) well, serving 1,000 or fewer persons may use the triggered source sample as one of the repeat samples, if approved by the State Board.

Routine No. 1 Sample Location:

Click here to enter text.

Water samples will be collected during the months of:

☐ Jan. ☐Feb. ☐Mar.
☐ Apr. ☐May ☐Jun.
☐Jul. ☐Aug. ☐Sept.
☐ Oct. ☐Nov. ☐Dec.

Routine Sample Site Description:

Click here to enter text.
(hose bib, sink faucet, etc.)

Follow-up (repeat) Sample Locations:

1. Click here to enter text.
(routine no.1 sample location name/address)

2. Click here to enter text.
(up-stream within 5 connections)

3. Click here to enter text.
(down-stream within 5 connections)

Triggered Source Sample(s)

Click here to enter text

Routine No. 2 Sample Location: (if required)

Click here to enter text.

Water samples will be collected during the months of:

☐ Jan. ☐Feb. ☐Mar.
☐ Apr. ☐May ☐Jun.
☐Jul. ☐Aug. ☐Sept.
☐ Oct. ☐Nov. ☐Dec.

Sample Site Description:

Click here to enter text.
(hose bib, sink faucet, etc.)

Follow-up (repeat) Sample Location:

1. Click here to enter text.
(routine no.2 sample location name/address)

2. Click here to enter text.
(up-stream within 5 connections)

3. Click here to enter text.
(down-stream within 5 connections)

Triggered Source Sample(s)

Click here to enter text.

Water System #:

Sample Locations

Routine No. 3 Sample Location: (if required)

Click here to enter text.
(routine no. 3 sample location name/address)

Water samples will be collected during the months of:

☐ Jan.☐Feb.☐Mar.
☐ Apr. ☐May ☐Jun.
☐Jul. ☐Aug. ☐Sept.
☐ Oct. ☐Nov. ☐Dec.

Sample Site Description:

Click here to enter text.
(hose bib, sink faucet, etc.)

Follow-up (repeat) Sample Location:

1. **Click here to enter text.**
(routine no. 3 sample location name/address)

2. **Click here to enter text.**
(up-stream within 5 connections)

3. **Click here to enter text.**
(down-stream within 5 connections)

Triggered Source Sample(s)

Click here to enter text.

Notification to the DDW - Monterey District Office

The water system must notify the DDW-Monterey District Office, by the end of the day upon determination that an *E. coli* MCL has occurred (*Defined in Title 22, Chapter 15, Section64426.1*).

The water system must notify the DDW-Monterey District Office by the end of the next business day of an exceedance of a coliform treatment technique trigger (*Defined in Title 22, Chapter 15, Section 64426.6*)

Jonathan Weininger, P.E.
District Engineer, Monterey District

Daytime Phone: **(831) 655-6939**
Evening Cell: **(831) 595-0058**

DDW – Monterey District Office

Day or Night-Leave a Message: **(831)-655-6939**

Nathan Salazar
Environmental Health Specialist
Drinking Water Program
County of Santa Cruz Health Services Agency,
Environmental Health Division

Daytime Phone : **(831) 359-0856**
Evening Cell: **(831) 345-1382**

Office: **(831) 454-2022**

Prepared By:

Water System Representative Name: **Click here to enter text.**

Title: **Click here to enter text.**

Signature:_____ Date: **Click here to enter a date.**

BSSP Approval

The SWRCB-Division of Drinking Water has reviewed and approved this BSSP. Any plans on file dated prior to **Click here to enter a date.** are void. The water system must sample their distribution system and raw water special purpose source samples (quarterly/monthly) for bacteriological quality in accordance with the approved BSSP beginning **Click here to enter a date.**

Per the California Code of Regulations-Title 22 §64422, a water system is required to submit an updated plan to the State Board at least once every ten years and at any time the plan no longer ensures representative monitoring of the system.

Electronic Signature with Date: _____

Jonathan Weininger, P.E.
Monterey District Engineer

STAGE 2 DISINFECTION BYPRODUCT RULE (DBPR)
COMPLIANCE MONITORING PLAN
SCHEDULE 4 – GROUNDWATER SYSTEMS (Population 500 – 9,999)

Water System Name/ Number: _____

Population Served: _____ Residual Disinfectant Type: _____

Part 1: Site Justification: The system must select **2 compliance monitoring sites** for TTHM and HAA5 samples. The minimum sampling frequency is 2 dual sample sets per year. One site must be at the location of highest TTHM concentration and one site must be at the location of highest HAA5 concentration.

Site No.	Stage 2 Compliance Monitoring Site Address	Site Type (check one)	Site Justification
1		__Highest TTHM __Highest HAA5 __Representative of Service Area __Other (Water age, residence time, low residual, etc.)	
2		__Highest TTHM __Highest HAA5 __Representative of Service Area __Other (Water age, residence time, low residual, etc.)	

Part 2: Proposed Stage 2 DBPR Compliance Monitoring Schedule:

Peak Historical Month: _____ Justification for Peak Historical Month: _____
(e.g., warmest water temperature or highest DBP concentrations)

Yearly Sampling Date (during peak historical month): _____ (Day of the month, or Week) (e.g., 1st week of peak historical month, or 1st Tuesday of peak historical month)

Part 3 Compliance Calculation:

Compliance is determined by the result of the annual sample at each sampling location. The system is in compliance if sample result < MCL for each location.

Part 4: Required Attachments:

- Attach a schematic of your distribution system including all storage tanks, water treatment plants, disinfection facilities, etc. Please clearly identify each Stage 2 DBPR monitoring site.
- **Optional:** Any additional supporting documentation.

Part 5: Certification:

_____ _____ _____

Name (print) Title Signature Date

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER

BOOSTER STATION DATA

System Name:_____ **System No.:**_____
Source of Information:_____

Number or Name			
Date Constructed			
Purpose (boost to storage, maintain pressure, raw water, etc)			
Location (general, not specific)			
Fencing			
Housing			
Insulation			
Heating			
Pit Depth (if any)			
Drainage			
Relation to System			
Receives From			
Delivers To			
Discharge Pressure			
Last Efficiency Test			
Flood Hazard			
Pump Name	**Booster A**	**Booster B**	**Booster C**
Make			
Type			
Capacity (gpm)			
Lubrication			
Power			
Motor			
Auxiliary Power			
Control			
Frequency of Use			
Defects and Remarks			

DIVISION OF DRINKING WATER

BOOSTER STATION DATA

System Name:_____ **System No.:**_____
Source of Information:_____

Number or Name			
Date Constructed			
Purpose (boost to storage, maintain pressure, raw water, etc)			
Location (general, not specific)			
Fencing			
Housing			
Insulation			
Heating			
Pit Depth (if any)			
Drainage			
Relation to System			
Receives From			
Delivers To			
Discharge Pressure			
Last Efficiency Test			
Flood Hazard			
Pump Name	**Booster A**	**Booster B**	**Booster C**
Make			
Type			
Capacity (gpm)			
Lubrication			
Power			
Motor			
Auxiliary Power			
Control			
Frequency of Use			
Defects and Remarks			

SWRCB
Drinking Water Field
Operations Branch

Chlorination Data

Division of Drinking Water
Monterey District

System Name: _____ **System No.:** _____
Source of Information: _____
Collected by: _____ **Date:** _____

Reason for chlorination (emergency, mandatory, optional): _____
Water Source: _____ Water treated (raw/filtered etc.): _____
Chlorine demand character: _____ Dosage: _____
Point of application: _____ Mixing, adequate?: _____
Contact time before use: _____ Contact time for residual test: _____

Water Flow
Variation: _____ How measured _____

Equipment
Type: _____
Make: _____ Model: _____
Capacity: _____ Condition: _____
Auto. switchover capability? _____ Portable emergency chlorinator available? _____
Chlorine residual monitored continuously? _____ Low level residual alarm? _____
At what level of chlorine residual is the alarm activated? _____
How often are residual analyses conducted? _____
Type of residual measured (free or combined): _____
Type of residual test used: _____

Chemical added (Product Name and Manufacturer, % available chlorine, form):_____
Cylinder or crock capacity: _____
Stock on hand/days supply: _____

Housing and Safety Features
Housing: _____
Insulation: _____
Heating: _____
Locks: _____
Lighting: _____
Ventilation: _____
Leak detector with alarm: _____
Switches outside chlorination room: _____
Gas mask: _____
Is an emergency plan of action posted? _____

Operation and maintenance
Lapse during changes: _____
Ability to make repairs: _____
How often is the equipment inspected? _____
Operations records kept: _____
Condition of scales: _____

Remarks and deficiencies:

WELL DATA SHEET (Page 1 of 3)

Complete as much information as possible. Leave blank if information is not available, use N.A. if not applicable.		
** Indicates items required for Source Water Assessment*		
*** Indicates additional items required for assessments and Ground Water Rule*		
	(separate multiple entries in field with semi-colon)	Actual, Estimated or Default?
DATA SHEET GENERAL INFORMATION		
System Name		*from SWRCB database*
System Number		*from SWRCB database*
Source of Information (well log, SWRCB/County files, system, etc)		
Organization Collecting Information (SWRCB, County, System, other)		
Date Information Collected/Updated		
WELL IDENTIFICATION		
* Well Number or Name		*from SWRCB database*
* SWRCB Source Identification Number (PS Code)		
DWR Well Log on File? ("YES" or "NO")		
State Well Number (from DWR)		
Well Status (Active, Standby, Inactive)		*from SWRCB database*
WELL LOCATION		
Latitude		*from SWRCB database*
Longitude		*from SWRCB database*
Ground Surface Elevation (ft above Mean Sea Level)		
Street Address		
Nearest Cross Street		
City		
County		
* Neighborhood/Surrounding Area *(see Note 1)*		
Site plan on file? ("YES" or "NO")		
DWR Ground Water Basin		*to come from DWR*
DWR Ground Water Sub-basin		*to come from DWR*
SANITARY CONDITIONS		
** Distance to closest Sewer Line, Sewage Disposal, Septic Tank (ft)		
Distance to Active Wells (ft)		
Distance to Abandoned Wells (ft)		
Distance to Surface Water (ft)		
** Size of controlled area around well (square feet)		
* Type of access control to well site *(fencing, building, etc)*		
* Surface Seal? (Concrete slab)("YES", "NO" or "UNKNOWN")		
* Dimensions of concrete slab: Length(ft)/ Width(ft)/ Thick(in)		
* Within 100 year flood plain? ("YES", "NO" or "UNKNOWN")		
* Drainage away from well? ("YES" or "NO")		
ENCLOSURE/HOUSING		
Enclosure Type *(building, vault, none, etc.)*		
Floor material		
Located in Pit? ("YES" or "NO")		
Pit depth (feet) (if applicable)		
WELL CONSTRUCTION		
Date drilled		
Drilling Method		
Depth of Bore Hole (feet below ground surface)		
Casing Beginning Depth/Ending Depth(ft below surface); 2nd Casing Beginning Depth/Ending Depth; 3rd Casing, etc.		
Casing Diameter (inches); 2nd Casing Diameter; 3rd Casing, etc.		
Casing Material; 2nd Casing Material; 3rd Casing, etc.		
Conductor casing used? ("YES", "NO" or "UNKNOWN") *(See Note 2)*		
Conductor casing removed? ("YES", "NO" or "UNKNOWN")		
* Depth to highest perforations/screens (ft below surface) (or "UNKNOWN")		

WELL DATA SHEET (Page 2 of 3)

Complete as much information as possible. Leave blank if information is not available, use N.A. if not applicable.		
** Indicates items required for Source Water Assessment*		
*** Indicates additional items required for assessments and Ground Water Rule*		
	(separate multiple entries in field with semi-colon)	Actual, Estimated or Default?
WELL CONSTRUCTION (continued)		
Screened Interval Beginning Depth/Ending Depth (ft below surface); 2nd Screened Interval Beg. Depth/Ending Depth; 3rd Screened Interval, etc.		
* Total length of screened interval (ft) *(default = 10% pump capacity in gpm)* (or "UNKNOWN")		
* Annular Seal?("YES", "NO" or "UNKNOWN") *(See Note 3)*		
* Depth of Annular Seal (ft)		
Material of Annular Seal *(cement grout, bentonite, etc.)*		
Gravel pack, Depth to top (ft below ground surface)		
Total length of gravel pack (ft)		
AQUIFER		
* Aquifer Materials *(list all that apply: sand, silt, clay, gravel, rock, fractured rock)*		
* Effective porosity (decimal percent) *(default = 0.2)* (or "UNKNOWN")		
* Confining layer (Impervious Strata) above aquifer? ("YES", "NO" or "UNKNOWN")		
Thickness of confining layer, if known (ft)		
Depth to confining layer, if known (ft below ground)		
* Static water level (ft below ground surface)		
Static water level measurement: Date/Method		
Pumping water level (ft below ground surface)		
Pumping water level measurement: Date/Method		
WELL PRODUCTION		
Well Yield (gpm)		
Well Yield Based On (i.e., pump test, etc.)		
Date measured		
Is the well metered? ("YES" or "NO")		
Production (gallons per year)		
Frequency of Use (hours/year)		
Typical pumping duration (hours/day)		
PUMP		
Make		
Type		
Size (hp)		
* Capacity (gpm)		
Depth to suction intake (ft below ground surface)		
Lubrication Type		
Type of Power: *(i.e., electric, diesel, etc.)*		
Auxiliary power available? ("YES" or "NO")		
Operation controlled by: *(i.e., level in tank, pressure, etc.)*		
Pump to Waste capability? ("YES" or "NO")		
Discharges to: *(i.e., distribution system, storage, etc.)*		
REMARKS AND DEFECTS (use additional sheets as necessary)		
NOTES		
1. Neighborhood/Surrounding Area (list all that apply): A= Agricultural, Ru = Rural, Re = Residential, Co = Commercial, I = Industrial, Mu = Municipal, P = Pristine, O = Other		
2. Conductor Casing - Oversized casing used to stabilize bore hole during well construction. Should be removed during installation of annular seal.		
3. Annular Seal - Seal of grout in the space between the well casing and the wall of the drilled hole. Sometimes called "sanitary seal".		

WELL DATA SHEET (Page 3 of 3)

Complete as much information as possible. Leave blank if information is not available, use N.A. if not applicable.		
** Indicates items required for Source Water Assessment*		
*** Indicates additional items required for assessments and Ground Water Rule*		
Please Note:		
The information on this Well Data Sheet is considered confidential. To allow the information to be included		
in the permit report, or made available subject to a public information act request, the waiver clause below has		
to to be signed and dated by the owner (public water system). In lieu of this signature, the WDS has to be		
retained in a confidential file, or the information shown in the shaded rows has to be "blacked out."		
I/We, *(Name)_____,* ***certify that I/Weam/are the present owners of the well described on this well data sheet. I/We have reviewed the information presented on this well data sheet and I/We take no exception to having the information inlcuded in the Department of Public Health's Engineering Report. I/We understand that by including the well data sheet in the Engineering Report, it will be part of a public document that can be reviewed and copied subject to the public information act request.***		
	,	
_____ _____		
(Signature) (Date)		
Well Data Sheet Supplement		
REMARKS AND DEFECTS		
(Use or note these items as appropriate)		
(** indicates items pertinent to Ground Water Rule)		
Distance (ft) to other sanitary concerns:		
** Type of Sanitary Concern: _____		
** Type of Sanitary Concern: _____		
** Type of Sanitary Concern: _____		
** Type of Sanitary Concern: _____		
Raw Water Quality concerns? (Yes or No)		
** Microbiological (coliform)		
Chemicals		
Other (list)		
** Continuous Chlorination provided? (Yes or No)		
Condition of enclosure or housing		
Pit Drained? (if applicable)		
Pitless Adaptor? Make and Model		
Height of pump base (inches)		
Casing Vent? (yes or no)		
Air/Vacuum Release? (yes or no)		
Sampling Taps? (yes or no)		
Location of sampling taps		
Wellhead Riser? (yes or no); height above well		
Other		

State Water Resources Control Board

TMF Assessment Form

ASSESSMENT TYPE: ☐ Financing Project ☐ New System ☐ Change of Ownership

WATER SYSTEM CLASSIFICATION:
☐ Community Water System
☐ Nontransient Noncommunity Water System
☐ Transient Noncommunity (TNC) Water System
You may be eligible to use the TNC EZ Form

A. WATER SYSTEM INFORMATION

Water System Name:
Water System Number: CA ___ ___ ___ ___ ___ ___ ___
Water System Physical Address: _____ _____
City: _____ **Zip:** _____
County:
Division of Drinking Water Office or Local Primacy Agency:

B. PERSON COMPLETING THIS TMF ASSESSMENT (*Required fields)

***Name:**	***Signature:**
***Title :**	***Date Assessment Completed:**
***Phone Number:**	**Email Address:**
***Company Name and Address:** _____ _____	
City: _____ **Zip:** _____	

C. MAIN WATER SYSTEM CONTACT PERSON INFORMATION (To be completed only if it's different from B. above)

Name:	**Title:**
Phone Number:	**Email Address:**
Water System Mailing Address: _____ _____	
City: _____ **Zip:** _____	

TMF Assessment Instructions

In California the technical, managerial, and financial (TMF) assessment must be completed by public water systems that are applicants for State Water Resources Control Board (SWRCB) funding programs, new water systems, and changes of water system ownership.

To complete this assessment refer to the guidance and explanations in the Criteria For TMF Assessment document located on the SWRCB web site at:

http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/TMF.shtml

If requested information has already been submitted directly to the SWRCB division of drinking water office or the LPA, note the location of that information on the assessment form in the comments space. Required documentation may be submitted electronically on a compact disk (if submission is electronic indicate on assessment).

For each TMF element described below place the required information in the appendix and identify it by an attachment number that corresponds to the TMF element number. For example, documentation required for element number seven, Water Rights, should be identified in the appendix as Attachment 7, Water Rights. In addition, in the comments section of each TMF element list the actual documents that are provided in the appendix. For example, under the Water Rights comments section indicate that in the appendix Attachment 7 contains copies of the deeds to Wells 1 and 2 and the State Water Resources Control Board surface water. Check all boxes that are applicable. If the item is not applicable check the NA box to show that these items have been considered.

TMF Elements

1. Consolidation Feasibility

[Funding Projects, New Systems, Change of Ownership - ***Mandatory***]

Each public water system applying for construction funding or a refinancing loan must perform an evaluation, including costs and feasibility, of physically consolidating with another public water system. Guidelines for when a consolidation is most feasible include, but are not limited to:

- when one of the water systems is located within another's established service area,
- when one of the water systems is within an existing General Plan's zone of influence of the other,
- Or when the water system is within five miles of another public water system.

If the water system applying for construction funding or a refinancing loan is a "small community water system" (which is defined as: a community water system that serves no more than 3,300 service connections or a yearlong population of no more than 10,000 persons) and the water system is considered "disadvantaged" (which is defined as: the entire service of area of a community water system, or a community therein, in which the median household income is less than 80 percent of the statewide average), consolidation is *highly*

encouraged and the water system may be allowed funding for a consolidation feasibility study and/or may be giving priority when seeking construction funding.

☐ List all large water systems and the number of connections that are within five miles of the system.
Record NA if there is no water system in the vicinity. ☐ NA

_____

_____

☐ Submit a consolidation assessment that includes the name of all water systems contacted, and the results of any consolidation discussions conducted with at least one system within the five mile radius. ☐ NA

Comments _____

_____

2. System Description
[Funding Projects - ***Necessary****;* New Systems and Change of Ownership - ***Mandatory***]

Provide a system map that illustrates the location of all of the components of the water system including the:

☐ Current service area boundary
☐ Sources ☐ NA
☐ Treatment facilities ☐ NA
☐ Pumping stations ☐ NA
☐ Pressure zones ☐ NA
☐ Storage tanks ☐ NA
☐ Potential contamination hazards ☐ NA
☐ Projected ten-year growth boundaries

Comments _____

_____

3. Certified Operators
[Funding Projects -***Necessary***; New Systems and Changes of Ownership- ***Mandatory***]

The regulating agency has determined that this water system needs a:
☐ Certified distribution operator, Grade _____ ☐ NA
☐ Certified treatment operator, Grade _____ ☐ NA

☐ Provide copies of current certificates with operator names and grades as documentation that the distribution and treatment operators are certified for the appropriate level that is required for the water system.

☐ For a contract certified operator, provide a copy of the contract that describes the: ☐ NA

- Level of certification that the operator will be required to maintain
- Specific duties for which the operator will be responsible
- Time to be spent serving the water system
- Procedures to follow for complaints, compliance discrepancies, and emergencies

Comments _____

_____

4. Source Capacity

[Funding Projects - ***Necessary***; New Systems and Changes of Ownership - ***Mandatory***]

At all times a water system must have the capacity to meet the system's maximum day demand and to ensure that it has suitably adequate sources of water supply to serve the needs of its constituents in the future. Develop and submit the following:

☐ Documentation which demonstrates that the water system has a sufficient water supply as described in California Code of Regulations, Section 64554.

☐ A water conservation plan to address potential drought conditions.

☐ A plan to install water meters on all connections as well as a master meter on each source in order to accurately measure water consumption. [Note that all water systems applying for SWRCB funds must consider the feasibility of installing meters at each service connection that lacks a meter. Additionally, the funding requirements for the project must include conditions that the system will incorporate provisions into its operating procedures and expenses to read the meters and to charge rates based on usage.

☐ N/A – System is metered

☐ A map of the existing service area and surrounding locations that includes the location of all water sources as well as sources of potential contamination such as waste disposal sites, landfills, feedlots, underground storage tanks, out-of-service wells, and other potential contaminants.

☐ Documentation that demonstrates the water sources are protected from vandalism, tampering, contamination, or other threats.

☐ Ten year potential growth plans consistent with local land use plans and projected water demand. Describe how the system will ensure that potential water sources will meet all water quality standards.

☐ A plan to start the process to obtain additional water rights for new water sources if needed. ☐ NA

Comments _____

5. Operations Plan

[Funding Projects-***Necessary***; New Systems and Changes of Ownership- ***Mandatory***]

This operations plan describes all of the activities needed to maintain the water system in compliance with all drinking water standards. This plan describes the daily, weekly, monthly, and yearly tasks that would enable another qualified operator to assume the operation of the water system in an emergency. The plan also describes non-routine activities such as positive analytical results, responses to complaints, emergency operational practices, record keeping, and other duties. The operations plan will be updated as needed whenever changes occur. The date of the latest operations plan review was _____.

Provide an operations plan that describes the tasks that would enable another qualified operator to assume the operation of the system in an emergency. Include tasks that will be completed:

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Yearly

Include non-routine activities relating to:

- ☐ Positive analytical results
- ☐ Complaints
- ☐ Emergency operational practices
- ☐ Record keeping
- ☐ Other duties

Templates for a number of sample operations plan can be found on the SWRCB web site at:

http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/TMF.shtml

Comments _____

6. Training

[Funding Projects, New Systems, and Changes of Ownership - ***Necessary***]

Submit a plan describing the training that will be provided to ensure that everyone associated with the water system has the knowledge to competently comply with existing requirements and to be informed about new compliance requirements, new technologies, and newly identified hazards. The plan needs to describe the training for the following:

☐ Certified operators: Contact hours needed to maintain operator certification at the required grade for the system and other related training.
☐ Governing board and managers: Training that covers board and management roles and responsibilities including ethics and financial management.
☐ Other staff: Pertinent training to enable all staff to competently perform activities necessary to the operation and maintenance of the system.

Comments _____

_____

7. Ownership
[Funding Projects; New Systems, and Changes of Ownership - ***Mandatory***]

Ownership must be clearly identified for all components of the water system. Check the type of water system ownership:

☐ Sole proprietorship
☐ Partnership
☐ Corporation
☐ Mutual
☐ Governmental agency
☐ Other formation type

A copy of the deed for any well locations may document both ownership and water rights. Provide the following ownership documentation as hard copies or in electronic format:

☐ Formation papers such as incorporation articles, partnership documentation, by-laws, and governing ordinances. ☐ NA

☐ Deeds and other ownership documentation of all system property including land, buildings, wells, storage tanks, treatment facilities, and other system components. ☐ NA

☐ Easements, leases, or agreements for long term use regarding land or system components that are not owned by the water system. Specify the duration of the authorization. ☐ NA

☐ Encumbrances, trust indentures, bankruptcies, decrees, legal orders, or other items that may affect the owner's control of the water system. ☐ NA

☐ If the water system is under temporary ownership such as a developer, describe the timing for the change in ownership and the contact information for the eventual owner. ☐ NA

☐ If the owner of the water system has owned or managed any other public water system within the last ten years, list these systems by name and number. ☐ NA

☐ For a sole proprietor submit a plan that describes how the system will continue to be operated in the event the owner becomes incapable of carrying out this responsibility.
☐ NA

Comments _____

_____

8. **Water Rights**
[Funding Projects; New Systems, and Changes of Ownership - ***Mandatory***]

Provide the following documentation as hard copies or electronic format:

☐ List the current and emergency water sources that will be used to operate the system including groundwater, surface water, purchased water, and any other sources.

_____

☐ Describe the long-term availability of the sources used by the water system to meet a projected 10-year water demand**.** _____

_____

Groundwater: ☐ Yes ☐ No

- Unadjudicated Basin: Provide the following: ☐ NA

  ☐ A statement that the groundwater is extracted from a basin that is not adjudicated.

  ☐ Copies of the deeds for the parcels of each unadjudicated groundwater source used by the system.

- Adjudicated Basin: Attach the deed for the parcels of each adjudicated groundwater source that notes the adjudication or provide documentation of the Basin Water Master's terms of the adjudication as they relate to the water system's right to extract water from the adjudicated basin. ☐ NA

Surface Water: ☐ Yes ☐ No

Circle the type of water rights the water system holds for surface water from the list below:

a. Appropriative
   1) Pre-1914
   2) State Water Resources Control Board (SWRCB) Permit or License
b. Riparian

Appropriative

☐ If Pre-1914, provide a statement that water rights were established prior to 1914. ☐ NA

☐ If after 1914, provide a copy of the SWRCB water rights permit or license. Note that an application to the SWRCB does not document water rights. ☐ NA

Riparian

☐ Provide a statement that water is derived from a surface source pursuant to a riparian right. ☐ NA

Purchased Water: ☐ Yes ☐ No

☐ Provide a copy of the water service agreement for purchased water that specifies the duration of the authorization. Note that for funding projects the long term use agreements must extend for the life of the loan or a minimum of 20 years for grant funded projects. ☐ NA

Comments _____

_____

9. Organization

[Funding Projects – ***Necessary***; New Systems, and Changes of Ownership - ***Mandatory***]

In order to establish the lines of authority and communication between employees and management including the governing board, managers, certified operators, and clerical staff, provide a:

☐ Structural organizational chart for positions associated with the water system that indicates the lines of authority. Specify the frequency of board meetings where appropriate.

☐ Separate chart that lists the names and phone numbers of the specific people who fill those positions. Update this information as needed.

☐ List on the organization charts information on any contract certified operators the system may utilize. Indicate the level of certification and the number of hours for which the services of a certified operator are contracted. ☐ NA

Comments _____

_____

10. Emergency Response Plan

[Funding Projects – ***Necessary***; New Systems, and Changes of Ownership - ***Mandatory***]

A sample emergency response plan template is located on the CDPH website at:

http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/TMF.shtml

Ensure that the emergency response plan for the water system includes:

☐ A list of all disasters and emergencies that is likely to occur in the water system's service area. Include earthquakes, fires, and disinfection failure at minimum as well as flooding, water outages, water contamination, power outages, and other potential local emergencies.

☐ The names and contact information of water system personnel including the decision makers. Identify responsibilities, and provide a clear chain of command.

☐ An inventory of system resources used for normal operations and available for emergencies including maps and schematic diagrams, lists of emergency equipment and suppliers, emergency contract agreements, and emergency water interconnections or sources.

☐ A communication network that describes a designated location for an emergency operations center, emergency contact information for equipment suppliers, emergency phone and radio communication capabilities, coordination procedures with governmental agencies for health and safety protection, technical and financial assistance, and public notification procedures.

☐ Emergency procedures to quickly assess damage to water system facilities including logistics for emergency source activation and repairs, procedures for monitoring progress of repairs and restoration, and procedures for documenting damage and repairs.

☐ Describe steps that will be taken to resume normal operations and to submit reports to appropriate agencies.

Comments _____

_____

11. Policies

[Funding Projects; New Systems, and Changes of Ownership - ***Necessary***]

☐ A policy manual has been adopted that describes procedures pertinent to the management of the water system. At a minimum the policies described should cover:

a. Nonpayment of water charges
b. Unauthorized use of water
c. Hours worked and overtime
d. Complaint responses
e. Contract operators, if applicable
f. Governing board activities such as regulatory responsibilities, expenditure allowances, meeting notifications, resolution adoptions, and other issues as applicable

Comments _____

_____

12. Budget Projection / Capital Improvement Plan
[Funding Projects; New Systems, and Changes of Ownership - ***Mandatory***]

Use the sample 5-year budget projection/capital improvement plan (CIP) template, or an equivalent alternative, that is located on the CDPH website at

http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/TMF.shtml

This file consists of guidelines for completing this spreadsheet on the first Excel tab, the 5-year budget projection on the second tab, and the CIP on the third tab.

Submit the following:

☐ 5-Year budget projection/CIP template

☐ Documentation that reserve funds have been created for the CIP, operations and maintenance expenses, potential emergency needs, and any other reserve accounts necessary for the management of the system.

☐ Documentation of the current rate structure. ☐ NA

☐ Documentation of the average annual cost of water per connection for the last calendar year. ☐ NA

☐ Documentation that revenues cover expenses including the CIP reserve, or describe the plan to increase revenues to cover these expenditures? ☐ NA

☐ Where appropriate, include the Proposition 218 voter approval process that will be followed if a rate increase is planned. ☐ NA

☐ For investor owned systems documentation from the California Public Utilities Commission of an approved budget, CIP, and rate schedule. ☐ NA

☐ NEW SYSTEMS OR FUNDING PROJECTS ONLY: Proposed rate structure. ☐ NA

☐ NEW SYSTEMS OR FUNDING PROJECTS ONLY: Estimated average annual cost of water per connection based on the proposed new funding amount. ☐ NA

Comments _____

_____

_____

13. Budget Control

[Funding Projects - ***Necessary;*** New Systems, and Changes of Ownership - ***Mandatory***]

A financial policy that includes:

☐ Budget control procedures in which one person records a transaction and a manager review and approves it. Describe budget controls for:

a. Cash receipts and disbursements
b. Bank accounts
c. Payroll

☐ Financial reports prepared for review by governing board such as:

a. Customer Receivables Report
b. Check Register Review
c. Bank Reconciliation Report
d. Budget Comparison Report
e. Quarterly Comparative Balance Sheet
f. Tax Returns

☐ Criteria and withdrawal guidelines for the maintenance of reserve accounts including:

a. CIP Reserve
b. Operations and Maintenance Reserve
c. Contingency or Emergency Reserve
d. Other Reserves

☐ Reporting procedures to appropriate levels of authority to ensure that there is no commingling of revenue sources. ☐ NA

☐ Periodic reviews of the budget status by a Certified Public Accountant or appropriately qualified financial officer of the water system to ensure continuing financial viability. Three years of the most current audited financial reports must be submitted for all CDPH funding projects. ☐ NA

Comments _____

_____

State Water Resources Control Board

Division of Drinking Water

WATER QUALITY EMERGENCY NOTIFICATION PLAN

Name of Utility/System No.: _____

Physical Location/Address: _____

The following persons have been designated to implement the plan upon notification by the State Water Resources Control Board (SWRCB) that an imminent danger to the health of the water users exists:

Water Utility: Contact Name & Title	Email Address	Telephone Day	Evening	Cell
1.				
2.				
3.				

The implementation of the plan will be carried out with the following State Water Resources Control Board and County Environmental Health Department personnel:

	Division of Drinking Water Contacts	Telephone Work	After-Hours
1.	Monterey District Office	(831) 655-6939	
2.	Jonathan Weininger, District Engineer	(831) 655-6932	(831) 595-0058
3.	Querube Moltrup, Associate Sanitary Engineer	(831) 655-6936	
4.	Shaminder Kler, Associate Sanitary Engineer	(831) 655-6938	
5.	Kyle Graff, Water Resource Control Engineer	(831) 655-6935	
6.	Anna Snyder, Water Resource Control Engineer	(831) 655-6934	
7.	Nicholas Garibaldi, Water Resource Control Engineer	(831) 655-6943	
8.	Lora Lyons, Environmental Scientist	(831) 655-6942	
	Santa Cruz County Environmental Health Contact		
9.	Nathan Salazar	(831) 359-0856	(831) 345-1382

If the above personnel cannot be reached, contact:

Office of Emergency Services Warning Center (24 hrs) (800) 852-7550

When reporting a water quality emergency to the Warning Center, please ask for the State Water Resources Control Board – Drinking Water Program Duty Officer.

NOTIFICATION PLAN

On form included, provide a written description of the method or combination of methods to be used (radio, television, door-to-door, sound truck, etc.) **to notify customers in an emergency.** For each section of your plan give an estimate of the **time required, necessary personnel, estimated coverage,** etc. Consideration must be given to special organizations (such as schools), non-English speaking groups, and outlying water users. Ensure that the notification procedures you describe are practical and that you will be able to actually implement them in the event of an emergency. Examples of notification plans are attached for large, medium, and small communities.

Report prepared by:

_____ _____

Signature and Title Date

WATER QUALITY EMERGENCY NOTIFICATION PLAN:

Please describe your water system's plan for emergency notification to all water users:

Date: _____

Report Prepared by: _____

Name of utility or water system: _____

(EXAMPLE) PLAN I (Medium Community)

During regular working hours our people will contact the news media at television station KXYZ to broadcast the necessary warning. The local radio stations will also be contacted. The television and radio personnel are available at all hours. As a follow-up measure, we will also contact the Daily Bee, a local newspaper that serves both Ourtown and Hometown.

The warnings will be issued in both English and Spanish to cover all members of the community. Outlying areas of the water service area (such as Isolated Canyon and Lonesome Mountain subdivisions) will also be notified by sound truck and/or handbill distributed to their respective areas. Both of these areas are very small, and this can be done quite quickly.

A special telephone answering service can also be quickly set up at the utility headquarters (using the regular company numbers) to answer questions that will come in from consumers. Questions are anticipated, especially from the Hometown area, because that area is served by three different water companies. A map will be available to the telephone answering personnel to determine the water company serving the caller.

It is anticipated that the time for notification to the television and radio audiences will be very short. The areas served by handbill and sound truck will also be notified within an hour. For notification to be issued in other than normal hours, the same media will be contacted, and an announcement will be scheduled for as long as is necessary. A sound truck(s) will be used in the early morning hours to quickly alert the people not listening to their radio or television.

(EXAMPLE) PLAN II (Small Community)

Our community is very small and the most efficient means of notification will be both sound truck and handbill. It is estimated that the entire service area can be covered in less than three hours.

(EXAMPLE) PLAN III (Large Community)

The same plan as implemented in Plan I should be used here with the exceptions noted. All the news media will be contacted in the entire metropolitan area. This includes all television and radio stations and all local and general area newspapers. Maps have been prepared to be distributed to the media to locate the boundaries of the water company. This system is large enough that it may only be necessary to notify some of the water users. This information will be transmitted to the media and an answering service at the water company will respond to consumers' calls. Unless the problems are limited to isolated areas it is unreasonable to assume that contact can be made through sound truck or handbill.

EXHIBIT X

November 21, 2022

Thomas James Moore
Big Basin Water Company, Inc.
16595 Jamison Creek Road
Boulder Creek, CA 95006
Email: bbwater197@yahoo.com

Via Certified and Electronic Mail
7020 1810 0002 0773 8217

Dear Thomas James Moore:

BIG BASIN WATER COMPANY, INC., BIG BASIN WOODS SUBDIVISION WWTP, HWY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK, SANTA CRUZ COUNTY– CLEANUP AND ABATEMENT ORDER NO. R3-2022-0077

The California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) is a state regulatory agency with responsibility for protecting the quality of the waters of the state within its area of jurisdiction. The Central Coast Water Board has authority to require submission of information, direct action, establish regulations, levy penalties, and bring legal action when necessary to protect water quality. The purpose of this letter is to transmit Cleanup and Abatement Order No. R3-2022-0077, which requires Big Basin Water Company, Inc. to address imminent threats to human health and water quality, and abate the condition, or threatened condition, of pollution or nuisance by taking necessary remedial action to prevent the accumulation and discharge of additional raw sewage.

Big Basin Water Company, Inc. is collecting untreated wastewater at the Big Basin Woods Subdivision wastewater treatment plant (WWTP), providing no treatment, and the WWTP components are overflowing and posing an imminent threat to waters of the state.

Big Basin Water Company, Inc. is regulated by Central Coast Water Board Order No. 97-26, *Waste Discharge Requirements for Big Basin Water Company, Inc., Big Basin Woods Subdivision, Santa Cruz County* (Permit) for the discharge of wastewater at the WWTP.

Big Basin Water Company, Inc. is in violation of Permit requirements. The conditions at the WWTP are causing or threatening to cause a condition of nuisance and are threatening to cause a condition of pollution in groundwater underlying and near the WWTP, in an ephemeral watercourse south of the WWTP, and in Boulder Creek.

Central Coast Water Board staff has made numerous attempts to contact Big Basin Water Company, Inc. personnel regarding the need to pump accumulated raw sewage from the basins at Big Basin Woods Subdivision WWTP. Big Basin Water Company, Inc. has failed to provide records that indicate regular pumping of accumulated raw sewage while repair work takes place to bring the Big Basin Woods Subdivision WWTP back into operation. On multiple occasions, staff from the Central Coast Water Board, County of Santa Cruz, and the California Department of Fish and Wildlife have visited the site and found the WWTP basins to be full of raw sewage and overflowing on to the ground.

Consequently, enclosed is the cleanup and abatement order, directing Big Basin Water Company, Inc. to:

- Reduce wastewater levels in the WWTP basins,
- Not accept any additional wastewater until certain conditions are met,
- Abate any and all conditions that enable mosquito breeding, and
- Submit weekly progress reports to the Central Coast Water Board.

If you have a questions, please contact Central Coast Water Board staff **Danial Woldearegay** at **(805) 549-3892, Danial.Woldearegay@Waterboards.ca.gov**, or Mark Lemus at (805) 549-3703, Mark.Lemus@Waterboards.ca.gov, or Jennifer Epp at (805) 594-6181, Jennifer.Epp@Waterboards.ca.gov.

Sincerely,

Matthew T. Keeling
Digitally signed by Matthew T. Keeling
Date: 2022.11.21 10:41:54 -08'00'
Water Boards

Matthew T. Keeling
Executive Officer

Enclosures: CAO No. R3-2022-0077

cc:
DeBerry, Bruce bruce.deberry@cpuc.ca.gov
Chavez, Moises moises.chavez@cpuc.ca.gov
Matthew Machado, matt.machado@santacruzcounty.us
Carolyn Burke Carolyn.Burke@santacruzcounty.us
Kent Edler Kent.Edler@santacruzcounty.us
David Reid, David.Reid@santacruzcounty.us
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Tamara Anderson, Tamara.Anderson@waterboards.ca.gov
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Jennifer Epp, Jennifer.Epp@Waterboards.ca.gov
Harvey Packard, Harvey.Packard@waterboards.ca.gov
Jesse Woodard, Jesse.Woodard@Waterboards.ca.gov
Todd Stanley, Todd.Stanley@Waterboards.ca.gov
WDR Program, RB3-WDR@Waterboards.ca.gov

ECM/CIWQS = 147027
GeoTracker No. = WDR100027894

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
895 Aerovista Place, Suite 101
San Luis Obispo, California

CLEANUP AND ABATEMENT ORDER NO. R3-2022-0077 ISSUED TO

BIG BASIN WATER COMPANY, INC. & THOMAS JAMES MOORE

FOR THE BIG BASIN WOODS SUBDIVISION WASTEWATER TREATMENT PLANT HIGHWAY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK SANTA CRUZ COUNTY

This Cleanup and Abatement Order No. R3-2022-0077 (Order) is issued to Big Basin Water Company, Inc., and Thomas James Moore pursuant to provisions of California Water Code (Water Code) sections 13304 and 13267, which authorize the California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) to issue this Cleanup and Abatement Order and require the submittal of technical reports.

This Order requires the Big Basin Water Company, Inc., and Thomas James Moore to immediately reduce the accumulated raw sewage from the Big Basin Woods Subdivision wastewater treatment plant to address imminent threats to human health and water quality and take necessary remedial action to prevent the accumulation and discharge of additional raw sewage and abate the condition, or threatened condition, of pollution or nuisance.

FINDINGS

The Central Coast Water Board finds that:

1. Big Basin Water Company, Inc. (Big Basin Water Company) and Thomas James Moore (Mr. Moore) (collectively, Dischargers) have caused or permitted, or threaten to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state, which creates, or threatens to create, a condition of pollution or nuisance.

2. The Big Basin Woods Subdivision wastewater treatment plant (Big Basin Woods Subdivision WWTP or WWTP) is located at Highway 236 and Fallen Leaf Drive, Boulder Creek, Santa Cruz County, California, Assessor's Parcel Number 083-293-01 (Site). A Site map is provided in the Attachment to this Order.

3. The Big Basin Woods Subdivision WWTP collects and treats wastewater from a 28-home residential community located approximately 2.5 miles north of Boulder Creek on Big Basin Way (Highway 236) in Santa Cruz County.

4. The Big Basin Woods Subdivision WWTP is regulated by Central Coast Water Board Order No. 97-26, *Waste Discharge Requirements for Big Basin Water Company, Inc., Big Basin Woods Subdivision, Santa Cruz County* (Permit), as amended by Resolution No. R3-2013-0052 (Resolution) and the Revised Standard Provisions and Reporting Requirements (Revised Standard Provisions) adopted therein.[1]

5. The WWTP is a package activated sludge plant with a designed capacity of 35,000 gallons per day (gpd), receiving at the time of Permit issuance approximately 4,000 gpd and permitted for 7,000 gpd. The WWTP system consists of an activated sludge package plant leachfield disposal system. The WWTP is designed for treated wastewater to be pumped to a leachfield for disposal located approximately one-half mile south and uphill of the WWTP.

6. Mr. Moore is the WWTP operator and Big Basin Water Company's Chief Executive Officer. According to the State Water Resources Control Board Office of Operator Certification's database, Mr. Moore's grade II operator certification has been expired since 2013.[2]

7. A significant portion of the residential community homes served by the WWTP and portions of the WWTP were damaged or destroyed in the CZU lightning complex wildfire in August 2020 (2020 wildfire). The WWTP suffered a long-term loss of power, and several vital pieces of process and transmission equipment were destroyed.

8. After the 2020 wildfire, Central Coast Water Board staff contacted Mr. Moore. Mr. Moore explained that the WWTP's electrical system sustained damage during the 2020 wildfire; the WWTP did not have power and could not operate. Mr. Moore stated that collected wastewater would be pumped regularly from the WWTP and disposed of appropriately while the electrical system was being repaired.

9. According to the County of Santa Cruz, three properties (two homes located on Assessor's Parcel Numbers 083-291-13 and 083-291-14 and a nearby fire station) have been discharging wastewater to the WWTP since the 2020 wildfire.

10. On September 9, 2021, Santa Cruz County Department of Public Works (DPW) visited the site and observed raw sewage overflowing onto the ground from one of the WWTP basins. Santa Cruz County DPW notified Central Coast Water Board staff of the Site

[1] The Resolution and Revised Standard Provisions are accessible at the following link: 2013-0052_resolution_standard_provisions.pdf (ca.gov)

[2] Central Coast Water Board staff determined in October 2022 that the WWTP requires a grade III operator. Going forward, the WWTP must be supervised and operated by a grade III operator.

conditions on October 24, 2022.

11. On November 22, 2021, Central Coast Water Board staff spoke to Mr. Moore about the conditions at the WWTP. Central Coast Water Board staff sent at least two follow-up emails to Mr. Moore after the call to request submission of several items, including WWTP pumping records and missing monitoring reports for 2020 and 2021. Mr. Moore failed to respond to the follow-up emails.

12. On June 1, 2022, Central Coast Water Board staff received an email from Santa Cruz County Environmental Health Director Marilynn Underwood. Director Underwood explained that during a meeting she recently had with Mr. Moore that Mr. Moore said he was pumping the WWTP weekly.

13. On September 20, 2022, Central Coast Water Board staff reviewed the Santa Cruz County septic hauling online database and did not find any reports of septic hauling from the Big Basin Woods Subdivision WWTP. Central Coast Water Board staff have not been able to verify whether regular pumping has occurred at the WWTP since the 2020 wildfires.

14. On August 29, 2022, Santa Cruz County Environmental Health staff contacted the County's Mosquito Abatement and Vector Control Division regarding evidence of significant mosquito breeding within the WWTP basins. On August 30, 2022, the Santa Cruz County Mosquito and Vector Control Division inspected the Site and documented dense breeding of mosquitos at the WWTP and raw sewage overflowing from one of the WWTP basins onto the ground. On August 30, 2022, Santa Cruz County sent an email to Central Coast Water Board staff regarding the mosquito breeding at the WWTP. After their inspection, Santa Cruz County Mosquito Abatement and Vector Control Division sent a report to Mr. Moore stating that the large quantities of Culex species mosquitoes breeding at the WWTP constitute a public health concern as the mosquitoes can transmit West Nile virus. The report was later shared with Central Coast Water Board staff.

15. Santa Cruz County Mosquito Abatement and Vector Control Division has recommended continuously circulating or aerating the water within all chambers of the WWTP to prevent mosquito breeding. Mosquito Abatement and Vector Control Division staff has stated that mosquitos can breed in as little as one-fourth inch of stagnant water.

16. On September 22, 2022, Central Coast Water Board staff inspected the Big Basin Woods Subdivision WWTP and observed Permit violations explained below.

17. Santa Cruz County Mosquito Abatement and Vector Control Division has been performing regular treatment of larvicide at the WWTP at two-to-three-week intervals since August 29, 2022, and has continually observed full and overflowing WWTP basins.

18. On November 2, 2022, a California Department of Fish and Wildlife warden visited the

site and observed raw sewage overflowing one of the WWTP basins.

19. On November 10, 2022, the Central Coast Water Board issued a notice of violation to Big Basin Water Company for Permit violations. The November 10, 2022 notice of violation identified several Permit violations that relate to nuisance and the threat of pollution to underlying groundwater and surface waters, including the following:

    a. Permit section D.6 requires, "*Stand by and/or portable generators shall be available to assure compliance with requirements during power failure*." Big Basin Water Company did not have generators on the Site that would allow the WWTP to operate without electrical service.

    b. Permit section A.1 states, "*Discharge to areas other than the designated leachfield disposal area . . . is prohibited*." Big Basin Water Company discharged raw sewage onto the ground adjacent to the WWTP basins. On multiple occasions, Santa Cruz County, Central Coast Water Board, and California Department of Fish and Wildlife staff observed evidence of basin overflow.

    c. Revised Standard Provisions section A.7 states, "*Collection, treatment, or discharge of waste shall not create a nuisance or pollution, as defined by Section 13050 of the California Water Code*." Conditions at the Site have created a nuisance. Under Water Code section 13050(m), a "nuisance" means anything which meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoinment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) occurs during, or as a result of, the treatment or disposal of wastes. The WWTP has been left inoperable and is effectively functioning as open holding basins that have collected stagnant raw sewage. Santa Cruz County mosquito and vector control staff visited the site on August 30, 2022, and reported "*confirmed dense breeding of Culex species of mosquitoes which can transmit West Nile virus. The large quantities of mosquitoes produced by this wastewater treatment facility constituted a public health concern to the surrounding residents*". There is no evidence that Big Basin Water Company has removed or treated wastewater since the 2020 wildfire.

    d. Revised Standard Provision section A.10 states, "*The discharger shall prevent formation of habitat for carriers of pathogenic microorganisms in any part of the treatment and disposal system.*" Big Basin Water Company failed to prevent the formation of habitat for carriers of pathogenic microorganisms. The WWTP has been left inoperable and is collecting stagnant raw sewage that has become a breeding ground for mosquitos.

    e. Revised Standard Provision section A.12 states, "*The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and*

related appurtenances) that are installed or used by the discharger to achieve compliance with the conditions of this order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staff and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. Proper operation and maintenance shall be described in an Operation and Maintenance Manual." Big Basin Water Company has failed to properly operate and maintain all facilities and systems of treatment and control. The WWTP has neither treated wastewater nor operated system components since the 2020 wildfire, but it continues to accept raw sewage daily. The WWTP is in a status of disrepair and is not a functioning system that can prevent basin overflow and nuisance.

f. Revised Standard Provisions section A.23 states, "*The discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this order that has a reasonable likelihood of adversely affecting human health or the environment*." Big Basin Water Company has failed to take reasonable steps to minimize or prevent discharges in violation of the Permit. The collected raw sewage at the WWTP is overflowing on to the ground and will likely continue to spill on a daily basis as flows are added to the system from the connected homes. In addition, the WWTP conditions pose a significant threat of a spill reaching nearby surface waters.

g. Revised Standard Provisions section A.27 requires safeguards "*be provided to ensure maximal compliance with all terms and conditions of this order. Safeguards shall include preventative and contingency plans and may also include alternative power sources, stand-by generators, retention capacity, operating procedures, or other precautions*. . . ." Big Basin Water Company has failed to have safeguards in place to ensure compliance with the terms and conditions of the Permit. It has not prevented or minimized overflow.

20. Mr. Moore is a discharger because his actions or inactions as the WWTP operator have caused or permitted, or threaten to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state, which creates, or threatens to create, a condition of pollution or nuisance.

21. Big Basin Water Company is a discharger because, as the current owner of the Site, it has caused or permitted, or threatens to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state, which creates, or threatens to create, a condition of pollution or nuisance. As the current owner of the Site, Big Basin Water Company has the legal ability to control the discharge or threatened discharge of waste.

22. Groundwater underlying and near the WWTP are waters of the state. An unnamed ephemeral watercourse directly south of the WWTP is tributary to Boulder Creek, located immediately across Highway 236 from the WWTP. The ephemeral watercourse and Boulder Creek are waters of the state. Boulder Creek is a water of the state and/or

United States.

23. Raw sewage contains pollutants that could cause or contribute to exceedances of water quality standards when introduced to receiving waters.

24. By receiving wastewater into a nonfunctioning wastewater treatment system and allowing raw sewage to overflow the WWTP basins onto the ground, the Dischargers are causing or threatening to create a condition of pollution because the overflowing raw sewage is altering or may alter the water quality to a degree that unreasonably affects the beneficial uses of the groundwater underlying and near the WWTP and in the ephemeral watercourse and Boulder Creek.

25. The Dischargers are causing, or threatening to cause, a condition of nuisance by allowing the stagnant WWTP basins to become a mosquito breeding habitat, posing an imminent threat to public health.

LEGAL AUTHORITY

26. The Big Basin Woods Subdivision WWTP is in the Big Basin Hydrological Unit (306), as described in the *Water Quality Control Plan for the Central Coastal Basin, June 2019 Edition* (Basin Plan).

27. The Basin Plan designates beneficial uses of waters of the state, sets narrative and numerical water quality objectives to protect those beneficial uses, and establishes implementation plans to implement water quality objectives.

28. The Basin Plan has established the following potential and designated beneficial uses of groundwater in the vicinity of Big Basin Woods Subdivision WWTP:

    a. Municipal and domestic supply
    b. Agricultural water supply

29. Beneficial uses of Boulder Creek and the San Lorenzo River that could be affected by the discharge include all of the following:

    c. Municipal and domestic supply
    d. Groundwater recharge
    e. Contact and non-contact water recreation
    f. Wildlife habitat
    g. Cold freshwater habitat
    h. Fish migration
    i. Fish spawning
    j. Agricultural supply
    k. Commercial and sports finishing

30. Water Code section 13304, subdivision (a), states, in relevant part:

Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts.

31. Water Code section 13050 states, in relevant part:

(k) "Contamination" means an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

(*l*)(1) "Pollution" means an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following:
(A) The waters for beneficial uses.
(B) Facilities which serve these beneficial uses.
(2) "Pollution" may include "contamination."

(m) "Nuisance" means anything which meets all of the following requirements:
(1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
(2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
(3) Occurs during, or as a result of, the treatment or disposal of wastes.

32. Water Code section 13267, subdivision (b)(1), states:

In conducting an investigation . . ., the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region . . .shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

33. As detailed in the above findings, the Dischargers are causing, or threatening to cause, a condition of nuisance by allowing untreated domestic wastewater to collect at the Big Basin Woods Subdivision WWTP and remain stagnant, which is resulting in the

formation of habitat for carriers of pathogenic microorganisms. The conditions at the Site are a result of the treatment or disposal of wastes, are injurious to health or indecent or offensive to the senses, and affect at the same time the entire community or neighborhood served by and surrounded by the WWTP, although the extent of the annoyance or damaged inflicted upon individuals may be unequal. Additionally, the Dischargers are causing, or threating to cause, a condition of pollution in the waters of the state due to the overflow of raw sewage from ongoing contributions of untreated domestic wastewater to the WWTP, exacerbated by rainfall. Receipt of additional domestic wastewater to the WWTP while it is nonfunctioning will likely increase the overflow of raw sewage and further cause, or threaten to cause, a condition of pollution. Therefore, the Central Coast Water Board is authorized to order the Dischargers to clean up the waste, abate the effects of the waste, and to take other necessary remedial action, pursuant to Water Code section 13304.

IT IS HEREBY ORDERED, pursuant to Water Code sections 13304 and 13267, that the Dischargers must:

1. Immediately (no later than two days after the effective date of this Order) reduce wastewater levels in all the WWTP basins so that at all times there is a minimum of two feet of freeboard and more if necessary such that daily inflow and precipitation events will not result in basin overflow and discharge of raw sewage, and will not create a condition of pollution or nuisance. Compliance with this requirement may be accomplished through regular pumping of the raw sewage at the WWTP and disposal at a facility that has a current wastewater disposal permit from the Central Coast Water Board or another Regional Water Quality Control Board, and by continuously monitoring weather reports and regularly conducting visual inspections of the WWTP to assess conditions and levels of wastewater in the WWTP basins, especially prior to forecasted rain events, during rain events, and immediately following rain events.

2. Not accept any additional wastewater from properties other than the properties currently sending wastewater to the WWTP at the date of this CAO, until the Central Coast Water Board, or its delegate, certifies that one of the following conditions have been met:

    - The WWTP is meeting Permit conditions or any permit that supersedes the existing Permit.

    - An alternative plan for the treatment and or disposal of wastewater from the Big Basin Woods Subdivision has been approved by the Central Coast Water Board.

3. Abate any and all conditions that enable mosquito breeding by continuously circulating or aerating the wastewater within all chambers of the WWTP or other appropriate action.

4. Until notified otherwise by the Central Coast Water Board Executive Officer, submit weekly reports starting on Friday, November 25, 2022, and every Friday thereafter, on the status of cleanup and abatement efforts, including, at a minimum, the following

elements:

a. Daily influent flow to the WWTP in gallons per day.
b. Photo documentation of the levels of wastewater in all of the WWTP basins.
c. Freeboard measurements of the levels of wastewater in all of the WWTP basins.
d. Pumping records from the pumping service provider, including the date pumping occurred, the volume of wastewater pumped, the entity performing the pumping, and the location where the pumped wastewater was disposed of.
e. Actions taken to prevent mosquito breeding habitat.
f. Weekly rain totals received and predicted in the following week.
g. In addition to the weekly documentation, the reports must provide photos and freeboard measurements before, during and after rain events.

Central Coast Water Board enforcement staff will assess progress towards compliance with this Order when determining whether to pursue further enforcement, such as issuance of an administrative civil liability complaint pursuant to Water Code sections 13350 or 13385 for noncompliance with the Permit and for any unauthorized discharge of waste to waters of the state and/or U.S. Days of violation and the associated potential civil liability continue to accrue for each day of noncompliance.

PROVISIONS

1. The Central Coast Water Board's requirement that the Big Basin Water Company submit weekly status reports is made pursuant to Water Code section 13267. The Central Coast Water Board needs the required information to ensure compliance with this Order and the Permit. The evidence supporting this requirement is described in the findings of this Order. The cost of preparing and submitting the reports is estimated to be in the range of $300 to $750 per week.[3] The collection of weekly reports on the flows into the WWTP, status of pumping, levels of wastewater in the WWTP basins, and the prevention of mosquito habitat will enable an evaluation of the current risk of pollution from the WWTP and the condition of nuisance at the WWTP. Thus, the burden, including costs, of the status reports bears a reasonable relationship to its need and the benefits to be obtained.

2. Big Basin Water Company must submit a written 30-day advance notice to the Central Coast Water Board of any planned changes in name, ownership, control of the WWTP, or any planned physical changes to the WWTP that may affect compliance with this CAO. In the event of a change in ownership or operator, the Big Basin Water Company also must provide a 30-day advance notice, by letter, to the succeeding owner/operator of the existence of this CAO and shall submit a copy of this advance notice to the Central Coast Water Board.

3. All submittals required in conjunction with this Order must include a signed statement by the legally responsible party of the Big Basin Water Company, certifying under penalty

[3] Two to five hours a week at $150 per hour.

of perjury under the laws of the State of California that the submitted document is true, complete, and accurate. The statement must read as follows:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

All submittals required by this Order must be submitted electronically to the email addresses below:

Danial.Woldearegay@waterboards.ca.gov
and
RB3-WDR@waterboards.ca.gov

4. Pursuant to Water Code section 13304, the Central Coast Water Board is entitled to, and may seek reimbursement for, all reasonable costs it actually incurs to investigate discharges of waste and to oversee cleanup of such wastes, abatement of the effects thereof, or other remedial action, required by this Order. If directed by the Central Coast Water Board, Big Basin Water Company must reimburse the Central Coast Water Board for such costs.

5. This Order does not limit the authority of the Central Coast Water Board to institute additional enforcement actions or to require additional investigation and cleanup of the site consistent with the Water Code.

6. The Central Coast Water Board, through its Executive Officer, may revise this Order as additional information becomes available. Upon request by Big Basin Water Company, and for good cause shown, the Executive Officer may defer, delete, or extend the date of compliance for any action required of Big Basin Water Company under this Order. The authority of the Central Coast Water Board, as expressed in the Water Code, to order investigation and cleanup, in addition to that described herein, is in no way limited by this Order.

7. Failure to comply with the terms or conditions of this Order may subject Big Basin Water Company to further enforcement action, including, but not limited to, assessment of civil liability pursuant to Water Code sections 13268, 13350, and/or 13385, and/or referral to the attorney general of the state of California. The Central Coast Water Board reserves its right to take any enforcement action authorized by law.

8. Any person aggrieved by this action of the Central Coast Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23,

sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions will be provided upon request or may be found on the Internet at:
http://www.waterboards.ca.gov/public_notices/petitions/water_quality

This Order is issued under authority delegated to its executive officer by the Central Coast Water Board and is effective upon signature.

Ordered by:

Matthew T. Keeling, Executive Officer

Attachment – Site Location Map

Attachment

Figure 1: Site Location Map

EXHIBIT Y

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

December 14, 2022

Thomas J Moore
Big Basin Water Company, Inc.
16595 Jamison Creek Road
Boulder Creek, CA 95006

SUBJECT: Notice of Violation

Mr. Moore:

The Water Division of the California Public Utilities Commission (Commission) has determined that Big Basin Water Company (BBWC) is in violation of Public Utilities (PU) Code § 451 and Commission's General Order 103-A, for the following reasons and as further discussed in this Notice of Violation (NOV): 1) failing to furnish and maintain safe and reliable wastewater service to its customers and the public; 2) failing to comply with the Central Coast Regional Water Quality Board's (Central Coast Water Board) permit requirements, NOVs,[1] and Cleanup and Abatement Order (CAO).[2]

California Public Utilities Code § 451 states:

> *"Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public."*

BBWC violated PU Code § 451 by failing to regularly pump and/or treat the collected wastewater at BBWC's inoperable wastewater treatment plant (WWTP) since the CZU Lightning Complex fire in August 2020. This failure has resulted in filling of the WWTP basins and subsequent discharge onto the ground adjacent to the basins which have been documented in periodic visits by Santa Cruz County, Central Coast Water Board, and Department of Fish and Wildlife staff, most recently on November 2, 2022. The WWTP wastewater basins and surrounding area have now become a significant breeding ground for mosquitos which is continuing to be treated by Santa Cruz County mosquito and vector control. BBWC's failure to regularly pump its wastewater, now poses a health and safety hazard to BBWC's customers and to the public and should immediately be rectified.

General Order 103-A, Section II.1-A states:

> *"Subject to the Commission's oversight, each utility shall operate its system so as to deliver reliable, high quality service to its customers at reasonable cost."*

[1] Notice of Violation #1 issued on November 10, 2022 and Notice of Violation #2 issued on November 29, 2022.
[2] Cleanup and Abatement Order No. R3-2022-0077 issued on November 21, 2022.

BBWC continues to receive wastewater from its customers while the WWTP remains inoperable. BBWC is in violation of the Commission's General Order 103-A, Section II.1-A by failing to deliver reliable, high-quality service to its customers since BBWC's WWTP went out of service after the August 2020 fire.

General Order 103-A, Section II.1-C states:

> *"Each wastewater utility shall ensure that it complies with the State Board, Regional Board, and County Health Department[3] permit requirements and all applicable regulations."*

General Order 103-A, Section III.1-A(1) states in part:

> *"Each system shall be designed and operated so as to provide reasonably adequate and safe service to its customers and shall conform to the requirements of the Department and this General Order."*

BBWC is in violation of General Order 103-A, Section III.1-A(1) as the Central Coast Water Board issued a Notice of Violation on November 10, 2022 citing numerous WWTP permit violations. Subsequently, the Central Coast Water Board issued Cleanup and Abatement Order (CAO) No. R3-2022-0077 on November 21, 2022, ordering BBWC to reduce wastewater levels in the WWTP basins such that overflow and discharge will not occur, to abate any and all conditions that enable mosquito breeding, and to submit weekly reports to Water Board staff. On November 29, 2022, the Central Coast Water Board issued a second Notice of Violation to BBWC for failing to reduce wastewater levels and submit weekly reports as required in the CAO.

General Order 103-A, Section VII.5-A states in part:

> *"The utility shall ensure that all water treatment and water distribution facilities are operated by personnel appropriately certified by the Department."*

The current owner and WWTP operator for BBWC is Thomas J Moore. According to the State Water Resources Control Board, Mr. Moore's Grade II wastewater treatment operator certification expired in 2013 and has not been renewed. Additionally, the Central Coast Water Board determined in October 2022 that the BBWC WWTP requires a Grade III operator to comply with Department requirements and the Commission's General Order 103-A, Section VII.5-A.

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[3] The Department as defined by General Order 103-A is, "The Division of Drinking Water and Environmental Management of the Department of Public Health of the State of California, or its successor; or the County Health Department, that has jurisdiction over the utility."

The Commission's Water Division Corrective Action Directives:

BBWC is directed to comply with the following directives listed under Table 1:

Directive	Statute(s)	Due Date
1. Abate any and all existing and potential conditions for mosquito breeding as specified in CAO No. R3-2022-0077.	PU Code § 451	December 21, 2022
2. Restore service to the WWTP or provide a Corrective Action Plan (CAP) for the WWTP including a timeline for funding requests to be submitted to the Commission.	G.O. 103-A Section II.1-A	January 9, 2023
3. Comply with all permit requirements and outstanding Central Coast Water Board Notice of Violations and Cleanup and Abatement Orders.	G.O. 103-A Section III.1-A(1)	January 9, 2023
4. Procure a certified Grade III wastewater treatment operator or certification consistent with Department requirements for the BBWC WWTP.	G.O. 103-A Section VII.5-A	January 9, 2023

As specified under the penalty schedule in Commission Resolution (Res.) W-4799, failing to comply with a directive may result in a penalty of $500 per event with a maximum of $2,000 in total for the directives specified in Table 1. In accordance with Res. W-4799 and M-4846, BBWC must either comply with the directives by the deadlines specified herein or informally contest the alleged violations within 30 days of issuance of this notification letter. BBWC may request an extension of time to achieve compliance, based on a showing of good cause.

If BBWC chooses to contest any of the alleged violations specified in this NOV, its response shall include a statement of the facts for the basis of each dispute; a plan to correct any undisputed violations; confirmation that BBWC will correct any undisputed violations by the dates specified in this letter or a proposal for a later date with an explanation of the need for such an extension, and confirmation that a penalty assessed will be paid within 30 days of issuance of this notification letter or a proposal for a lower penalty amount with an explanation of why the lower amount is appropriate.

Res. M-4846 also authorizes Commission staff to take additional enforcement actions upon receipt of BBWC's response including, but not limited to, issuing a Citation, Administrative Consent Order, and/or Administrative Enforcement Order if staff determines the utility's response to be inadequate.

If you have any questions, please contact Wilson Tsai at (415) 703-1359 or WT1@cpuc.ca.gov.

Sincerely,

Terence Shia
Director
Water Division

Attachments: 1) Central Coast Regional Water Quality Control Board, Notice of Violation, November 10, 2022, 2) Central Coast Regional Water Quality Control Board, Cleanup and Abatement Order No. R3-2022-0077, November 21, 2022, 3) Central Coast Regional Water Quality Control Board, Notice of Violation, November 29, 2022.

CC: Bruce DeBerry, Project Manager, Water Division, CPUC
Moises Chavez, Program and Project Supervisor, Water Division, CPUC
Adam Thaler, Utilities Engineer, Water Division, CPUC
Danial Woldearegay, Water Resource Control Engineer, Central Coast Water Board
Thea S. Tryon, Assistant Executive Officer, Central Coast Water Board
Jennifer Epp, Supervisor, Central Coast Water Board
Laura Mooney, Attorney, Office of Enforcement, State Water Resources Control Board

November 10, 2022

Thomas J Moore
Big Basin Water Company, Inc.
16595 Jamison Creek Road
Boulder Creek, CA 95006
Email: bbwater197@yahoo.com

Via Certified and Electronic Mail
No. 7019 1640 0000 7909 9994

Dear Thomas J Moore:

BIG BASIN WATER COMPANY, INC., BIG BASIN WOODS SUBDIVISION WWTP, HWY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK, SANTA CRUZ COUNTY – NOTICE OF VIOLATION FOR WASTEWATER TREATMENT SYSTEM OPERATIONS, WASTE DISCHARGE REQUIREMENTS ORDER NUMBER 97-26, WDID # 3 441001001

The California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) is a state regulatory agency with the responsibility for protecting the quality of the waters of the state within its area of jurisdiction. The Central Coast Water Board has authority to require submission of information, direct action, establish regulations, levy penalties, and bring legal action when necessary to protect water quality. The purpose of this letter is to notify Big Basin Water Company, Inc. (Big Basin Water Company) of alleged violations of state law at its Big Basin Woods Subdivision Wastewater Treatment Plant (WWTP), require a written response describing the actions taken or planned to be taken to address violations and prevent future violations, and explain the potential civil administrative liability for non-compliance with state and federal laws for any unauthorized discharges of waste to waters of the state and waters of the United States.

Big Basin Water Company is collecting untreated wastewater at the WWTP, providing no treatment, and the WWTP components are overflowing and posing an imminent threat to waters of the state and waters of the United States.[1] Big Basin Water Company must immediately cease any unpermitted discharge and must clean up and remove untreated wastewater.

[1] An unnamed ephemeral watercourse directly south of the WWTP is tributary to Boulder Creek, located immediately across Highway 236 from the WWTP. The ephemeral watercourse and Boulder Creek are waters of the state. Boulder Creek is a water of the United States. Groundwater beneath the WWTP is waters of the state. See Attachment 2, Figure 8.

Background

Big Basin Water Company is a private utility company that owns and operates the WWTP. The WWTP collects and treats wastewater from a 28-home residential community located approximately 2.5 miles north of Boulder Creek on Big Basin Way (Highway 236) in Santa Cruz County. The Central Coast Water Board regulates the WWTP pursuant to Order No. 97-26, *Waste Discharge Requirements for Big Basin Water Company Inc., Big Basin Woods Subdivision, Santa Cruz County* (Permit),[2] for the discharge of domestic wastewater to land.

A significant portion of the residential community homes and portions of the WWTP were damaged or destroyed in the CZU lightning complex fire in August 2020. The WWTP suffered a long-term loss of power, and several vital pieces of process and transmission equipment were destroyed. Two homes in the subdivision were not destroyed during the fire and have occupancy permits through Santa Cruz County. In addition, the nearby fire station is believed to be connected to the WWTP. Big Basin Water Company has stated that these homes have continued to send wastewater to the inoperable WWTP since the fire. During an inspection on September 22, 2022, Central Coast Water Board staff observed that some residents are living semi-permanently in recreational vehicles on their lots. There are also several new homes under construction in the community. See Attachment 2, Figure 5 for a map from Santa Cruz County that indicates which lots are currently connected to the WWTP and under construction.

After the wildfire, Central Coast Water Board staff contacted Mr. Thomas J (Jim) Moore, Big Basin Water Company's chief executive officer and WWTP operator. Mr. Moore explained that the WWTP's electrical system sustained damage during the fire and the WWTP did not have power to operate. Mr. Moore stated that collected wastewater would be pumped regularly from the WWTP and disposed of appropriately while the electrical system was being repaired.

Central Coast Water Board staff has not been able to verify whether regular pumping has occurred at the WWTP over the last two years and three months. During visits from Santa Cruz County staff on September 9, 2021, August 30, 2022, and October 27, 2022, Central Coast Water Board staff on September 22, 2022, and California Department of Fish and Wildlife staff on November 2, 2022, the WWTP basins were full of untreated wastewater and showed evidence of overflowing. See photographs provided in Attachment 1, Figures 3 – 5 and Attachment 2, Figures 4, 6, and 7. Central Coast Water Board staff has requested pumping reports from Big Basin Water Company multiple times (via email on November 22, 2021, and January 11, 2022) and has not received a response. On September 20, 2022, Central Coast Water Board staff reviewed the Santa Cruz County septic hauling online database and did not find any

[2] On December 5, 2013, the Central Coast Water Board amended the Permit via Resolution No. R3-2013-0052 to incorporate the December 5, 2013 Standard Provisions and Reporting Requirements for Waste Discharge Requirements (December 2013 Standard Provisions). The December 2013 Standard Provisions are accessible at the following link: https://www.waterboards.ca.gov/centralcoast/board_decisions/docs/wdr_standard_provisions_2013.pdf

reports of septic hauling from the Big Basin Woods subdivision. The database conflicts with a communication Mr. Moore had with Santa Cruz County, which indicates that Big Basin Water Company has pumped the wastewater on a weekly basis. Big Basin Water Company has also failed to submit all quarterly reports required by the Permit monitoring and reporting program since the second quarter of 2019, despite receiving a notice of violation sent by the Central Coast Water Board on May 31, 2022 (Attachment 5).

On May 20, 2022, the Central Coast Water Board sent Big Basin Water Company a directive pursuant to Water Code section 13260 (Attachment 4), requiring it to submit a new permit application by June 20, 2022, because the Central Coast Water Board must update the 30-year-old Permit. Over the last several years, the Central Coast Water Board has been sending directives to all facilities with outdated wastewater permits and delayed the directive to Big Basin Water Company to give it time to recover from the fire. Big Basin Water Company has failed to submit an application in response to the directive.

On August 29, 2022, the County of Santa Cruz contacted Central Coast Water Board staff regarding their public health concerns related to the significant mosquito breeding within the wastewater treatment basins at the WWTP. On August 30, 2022, Santa Cruz County mosquito and vector control staff confirmed dense breeding of mosquitos at the WWTP and applied a larvicide to the basins. Santa Cruz County mosquito and vector control staff have continued to treat the basins with larvicide on a regular basis (September 16, 2022, September 30, 2022, and October 27, 2022). See Attachment 3 for Santa Cruz County's inspection report and Attachment 2, Figures 1-3, and 7 for photos.

In September 2022, Central Coast Water Board staff (Water Resource Control Engineers Mark Lemus and Danial Woldearegay) conducted a desk review of available information on file and inspected the WWTP. Central Coast Water Board staff observed violations of the Permit. See Attachment 1 for a copy of the inspection report.

On October 24, 2022, Central Coast Water Board staff met with Santa Cruz County Public Works and Environmental Health staff and California Public Utilities Commission staff to discuss the status of the WWTP. Santa Cruz County provided photos from their site visit on September 9, 2021 (see Attachment 2, Figure 4), and a map showing the status of each parcel in the Big Basin Subdivision (see Attachment 2, Figure 5). California Public Utilities Commission staff stated that they have not received the 2021 annual report from Big Basin Water Company and have not received any recent requests for rate increases to fund facility operations and/or improvements.

On November 2, 2022, a California Department of Fish and Wildlife warden inspected the WWTP. The warden observed the basin on the south side of the WWTP overflowing (see Attachment 2, Figure 6).

Alleged Violations
The Central Coast Water Board alleges that Big Basin Water Company is in violation of Permit requirements. Details of the alleged violations are described below.

1. **Permit Section D, Provisions, Item 6** requires **"***Stand by and/or portable generators shall be available to assure compliance with requirements during power failure."*

   Big Basin Water Company is violating Permit section D.6 by not having generators on the site that would allow the facility to operate without electricity service to maintain permit compliance. During the September 22, 2022 inspection, Central Coast Water Board staff did not observe a standby generator at the site. Big Basin Water Company personnel stated that the WWTP was without power and have not operated any WWTP system components since the fire in 2019.

2. **Permit Section A, Prohibitions, Item 1** prohibits **"***Discharge to areas other than the designated leachfield disposal area."*

   Big Basin Water Company violated Permit section A.1 by discharging untreated wastewater onto the ground adjacent to the basins. On September 9, 2021, Santa Cruz County staff observed evidence of untreated wastewater overflowing one of the basins (see Attachment 2, Figure 4). On August 30, 2022, and October 27, 2022, Santa Cruz County mosquito and vector control staff observed that one of the basins holding untreated wastewater was overflowing (see Attachment 2, Figure 7). Photos from the September 22, 2022 Central Coast Water Board inspection show evidence of basin overflow (see Attachment 1, Figure 4). On November 2, 2022, California Department of Fish and Wildlife staff observed untreated wastewater overflowing one of the basins (see Attachment 2, Figure 6).

3. **Permit Section D, Provisions, Item 3** requires compliance with *" 'Standard Provisions and Reporting Requirements for Waste Discharge Requirements.' "* **December 2013 Standard Provisions[3] Section A, General Permit Conditions, Provision 7** states, "*Collection, treatment, or discharge of waste shall not create a nuisance or pollution, as defined by Section 13050 of the California Water Code."*

   Big Basin Water Company violated standard provision A.7 by creating a nuisance. Pursuant to Water Code section 13050(m), a "nuisance" means anything which meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoinment of life or property; (2)

[3] California Regional Water Quality Control Board Central Coast Region, Standard Provisions and Reporting Requirements for Waste Discharge Requirements, December 5, 2013.

affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) occurs during, or as a result of, the treatment or disposal of wastes.

The WWTP has been inoperable and is currently just collecting untreated wastewater in open basins. On August 30, 2022, Santa Cruz County mosquito and vector control staff visited the site and reported big stagnant basins of wastewater that had become concentrated mosquito larvae breeding habitat. Santa Cruz County staff reported, "*confirmed dense breeding of Culex species of mosquitoes which can transmit West Nile virus. The large quantities of mosquitoes produced by this wastewater treatment facility constituted a public health concern to the surrounding residents.*" See Attachment 3 for Santa Cruz County's inspection report and Attachment 2 Figures 1-3 for photos taken by mosquito and vector control staff. Big Basin Water Company has collected untreated wastewater over an extended period of time and there is no evidence of wastewater removal or treatment.

4. **Permit Section D, Provisions, Item 3** requires compliance with *" 'Standard Provisions and Reporting Requirements for Waste Discharge Requirements.' "* **December 2013 Standard Provisions Section A, General Permit Conditions, Provision 10** states, "*The Discharger shall prevent formation of habitat for carriers of pathogenic microorganisms in any part of the treatment and disposal system."*

   Big Basin Water Company violated standard provision A.10 by not preventing the formation of habitat for carriers of pathogenic microorganisms. As described in item 3 above, the WWTP has been left inoperable and is collecting stagnant wastewater that has become a breeding ground for mosquitos. See Attachment 3 for Santa Cruz County's inspection report and Attachment 2 Figures 1-3 for photos taken by county mosquito and vector control staff.

5. **Permit Section D, Provisions, Item 3** requires compliance with *" 'Standard Provisions and Reporting Requirements for Waste Discharge Requirements.' "* **December 2013 Standard Provisions Section A, General Permit Conditions, Provision 12** states, "*The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the discharger to achieve compliance with the conditions of this order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staff and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. Proper operation and maintenance shall be described in an Operation and Maintenance Manual."*

   Big Basin Water Company violated standard provision A.12 by not properly operating and maintaining all facilities and systems of treatment and control. The WWTP is inoperable and cannot provide adequate wastewater treatment to be

discharged to the environment. Big Basin Water Company has stated that it does not have adequate funding to repair and replace equipment necessary to bring the WWTP back into compliance with the Permit. California Public Utilities Commission staff have stated that they have not received any request over the last several years from Big Basin Water Company to increase rates so that funds are available to operate the WWTP. It has been over two years since the CZU complex fire, and it appears no significant progress has been made by Big Basin Water Company to bring the facility into an operating condition and into compliance with the Permit.

6. **Permit Section D, Provisions, Item 3** requires compliance with *" 'Standard Provisions and Reporting Requirements for Waste Discharge Requirements.' "* **December 2013 Standard Provisions Section A, General Permit Conditions, Provision 23** states, "*The discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this order that has a reasonable likelihood of adversely affecting human health or the environment."*

   Big Basin Water Company violated standard provision A.23 by not taking reasonable steps to minimize or prevent discharge in violation of the Permit. Central Coast Water Board staff has requested proof that the wastewater has been pumped from the WWTP; however, Big Basin Water Company has not furnished any proof that wastewater has been pumped from the system on a regular frequency. Visits from Santa Cruz County staff on September 9, 2021, August 30, 2022, and October 27, 2022, Central Coast Water Board staff on September 22, 2022, and California Department of Fish and Wildlife staff on November 2, 2022, showed full basins, which indicate that adequate pumping has not occurred on a regular basis. This collected wastewater within the WWTP is overflowing the WWTP facilities and will likely continue to spill on a daily basis as flows are added to the system from the connected properties. In addition, the WWTP conditions pose a significant threat of a spill reaching nearby surface waters[4] during the next significant precipitation event if no action is taken. It has been over two years since the CZU complex fire, and it appears no significant progress has been made by Big Basin Water Company to bring the facility into an operating condition and into compliance with the Permit.

7. **Permit Section D, Provisions, Item 3** requires compliance with *" 'Standard Provisions and Reporting Requirements for Waste Discharge Requirements.' "* **December 2013 Standard Provisions Section A, General Permit Conditions, Provision 27**, states that *safeguards, "shall be provided to ensure maximal compliance with all terms and conditions of this order. Safeguards shall include preventative and contingency plans and may also include alternative power sources, stand-by generators, retention capacity, operating procedures, or other*

[4] An unnamed ephemeral watercourse lies directly south of the WWTP and is tributary to Boulder Creek, located immediately across Highway 236 from the WWTP. See Attachment 2, Figure 8.

precautions. Preventative and contingency plans for controlling and minimizing the effect of accidental discharges shall:

a. Identify possible situations that could cause "upset," "overflow," "bypass," or other noncompliance. (Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks, or pipes should be considered.)

b. Evaluate the effectiveness of present facilities and procedures and describe procedures and steps to minimize or correct any adverse environmental impact resulting from noncompliance with the order."

Big Basin Water Company violated standard provision A.27 by not having any safeguards in place to ensure compliance with the terms and conditions of the Permit. Big Basin Water Company has not prevented or minimized overflow.

8. **Permit Section D, Provisions, Item 2** requires compliance with " '*Monitoring and Reporting Program No. 97-26' as specified by the Executive Officer*." Monitoring and Reporting Program No. 97-26 requires submittal of quarterly reports to the Central Coast Water Board.

   Big Basin Water Company violated Permit section D.2 by failing to submit quarterly reports between April and October 2022. The Central Coast Water Board sent a notice of violation to Big Basin Water company on May 31, 2022, for missing quarterly reports with due dates from October 20, 2019, through January 20, 2022 (see Attachment 5). In addition to the reports identified in the May 31, 2022 notice of violation, the Central Coast Water Board has not received quarterly reports for:

   Quarter 1, 2022 due April 20, 2022
   Quarter 2, 2022 due July 20, 2022
   Quarter 3, 2022 due October 20, 2022

9. **Permit Section B, Discharge Specifications, Item 2** requires effluent discharged to the leachfield disposal area to not exceed a settleable solids maximum of 0.7 mL/L.

   Big Basin Water Company violated Permit section B.2 by discharging effluent that exceeds the settleable solids limit. In reports provided by Big Basin Water Company, the settleable solids exceeded the limit on March 1, 2019, and April 1, 2019.

10. **Permit Section D, Provisions, Item 3** requires compliance with " 'Standard Provisions and Reporting Requirements for Waste Discharge Requirements.' " **December 2013 Standard Provisions Section A, General Permit Conditions, Provision 19** states, "*Wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to the California Water Code and Title 23 of the California Code of Regulations."*

Big Basin Water Company violated standard provision A.19. According to the State Water Resources Control Board Office of Operator Certification's database, Thomas J Moore's grade II operator certification expired in 2013, and the certification has not been renewed. In addition, Central Coast Water Board staff determined in October 2022 that the WWTP requires a grade III operator. Going forward, the WWTP will need to be supervised and operated by a grade III operator to be in compliance with standard provision A.19.

Requirements for Written Response to Alleged Violations

Big Basin Water Company must address the alleged violations described above and perform immediate and regular pumping. Big Basin Water Company must **submit by November 28, 2022**, a written response describing the actions taken or planned to address the above alleged violations and prevent future violations. For violations that Big Basin Water Company has not addressed immediately, the response must include a time schedule for corrective actions to bring the WWTP back into compliance with the requirements of the Permit.

Responses must be submitted electronically to the email addresses below:

Danial.Woldearegay@waterboards.ca.gov
and
RB3-WDR@waterboards.ca.gov

This notice of violation is intended to facilitate a timely remedy to address the Big Basin Water Company's alleged Permit violations. Central Coast Water Board staff will determine the need to recommend further enforcement actions based upon Big Basin Water Company, Inc.'s responses and future compliance with the Permit, Water Code, and Clean Water Act.

Potential Administrative Civil Liability

Big Basin Water Company is hereby on notice that each discharge of waste to waters of the state in violation of the Permit or Water Quality Control Plan for the Central Coastal Basin (Basin Plan)[5] subjects Big Basin Water Company to liability under Water Code section 13350(e). Water Code section 13350(e) authorizes the Central Coast Water Board to impose administrative civil liability of up to $5,000 per day of violation or $10 per gallon of waste discharged. Alternatively, the superior court may impose civil liability for each violation of up to $15,000 per day or $20 per gallon of waste discharged.

Big Basin Water Company does not have a permit to discharge pollutants to waters of the United States. Unpermitted discharges of pollutants to waters of the United States are violations of federal Clean Water Act (Clean Water Act) section 301. Clean Water

[5] Water Quality Control Plan for the Central Coast Region, June 2019 edition, https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/index.html (Section 5.4.2.2 prohibits discharges containing fecal material from humans to waters of the state)

Act section 301 violations are subject to liability under Water Code section 13385, which authorizes the Central Coast Water Board to impose administrative civil liability of up to $10,000 per day of violation and $10 per gallon discharged but not cleaned up over 1,000 gallons. Alternatively, a court may impose civil liability of up to $25,000 for each day the violation occurs, and up to $25 per gallon of waste discharged but not cleaned up over 1,000 gallons.

Big Basin Water Company's failure to submit quarterly reports between April and October 2022, is a violation of Water Code section 13267. Pursuant to Water Code section 13268, any person failing or refusing to furnish technical or monitoring program reports required under Water Code section 13267, or falsifying any information provided therein, is guilty of a misdemeanor and subject to an administrative civil liability of up to one thousand dollars ($1,000) for each day the report is late. Liability for each late reports continues to accrue until the report is submitted to the Central Coast Water Board.

Furthermore, the Central Coast Water Board reserves the right to take any enforcement action authorized by law including, but not limited to, the issuance of a cleanup and abatement order pursuant to Water Code section 13304 or a cease and desist order pursuant to Water Code sections 13301 and 13303.

Conclusion

Big Basin Water Company must ensure compliance with the Permit and must perform immediate and regular pumping of the wastewater at the WWTP to ensure protection of human health and the environment. Big Basin Water Company must not allow additional connections to the system until the WWTP is fully operational and can appropriately treat wastewater in compliance with the Permit. The facility currently poses a threat to human health and the environment by allowing wastewater to continue to overflow the basins, threatening to reach waters of the state and/or waters of the United States.

If you have a questions, please contact Central Coast Water Board staff **Mark Lemus at (805) 549-3703, Mark.Lemus@Waterboards.ca.gov**, **Danial Woldearegay** at **(805) 549-3892, Danial.Woldearegay@Waterboards.ca.gov**, or Jennifer Epp at (805) 594-6181, Jennifer.Epp@Waterboards.ca.gov.

Sincerely,

for Thea S. Tryon
Assistant Executive Officer

Attachments:

Attachment 1 – Report of Central Coast Water Board Inspection on September 22, 2022
Attachment 2 – Photos and Figures Provided by Santa Cruz County

Attachment 3 – Santa Cruz County Vector Inspection Authorization and Report Dated August 30, 2022.
Attachment 4 – Requirement to Submit Report of Waste Discharge Dated May 20, 2022
Attachment 5 – Notice of Violation for Failure to Submit Quarterly Monitoring reports dated May 31, 2022.

cc:
DeBerry, Bruce bruce.deberry@cpuc.ca.gov
Chavez, Moises moises.chavez@cpuc.ca.gov
Matthew Machado, matt.machado@santacruzcounty.us
Carolyn Burke Carolyn.Burke@santacruzcounty.us
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Todd Stanley, Todd.Stanley@Waterboards.ca.gov
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WDR Program, RB3-WDR@Waterboards.ca.gov

ECM/CIWQS = 147027
GeoTracker No. = WDR100027894
Rev 7/26/2021
ECM Subject Name = Big Basin Woods Subdivision WWTP NOV
R:\RB3\Enforcement\Case Files\Big Basin WWTP\NOV_Nov2022\Big Basin NOV_Final.docx

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
895 Aerovista Place, Suite 101
San Luis Obispo, California

CLEANUP AND ABATEMENT ORDER NO. R3-2022-0077 ISSUED TO

BIG BASIN WATER COMPANY, INC. & THOMAS JAMES MOORE

FOR THE BIG BASIN WOODS SUBDIVISION WASTEWATER TREATMENT PLANT HIGHWAY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK SANTA CRUZ COUNTY

This Cleanup and Abatement Order No. R3-2022-0077 (Order) is issued to Big Basin Water Company, Inc., and Thomas James Moore pursuant to provisions of California Water Code (Water Code) sections 13304 and 13267, which authorize the California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) to issue this Cleanup and Abatement Order and require the submittal of technical reports.

This Order requires the Big Basin Water Company, Inc., and Thomas James Moore to immediately reduce the accumulated raw sewage from the Big Basin Woods Subdivision wastewater treatment plant to address imminent threats to human health and water quality and take necessary remedial action to prevent the accumulation and discharge of additional raw sewage and abate the condition, or threatened condition, of pollution or nuisance.

FINDINGS

The Central Coast Water Board finds that:

1. Big Basin Water Company, Inc. (Big Basin Water Company) and Thomas James Moore (Mr. Moore) (collectively, Dischargers) have caused or permitted, or threaten to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state, which creates, or threatens to create, a condition of pollution or nuisance.

2. The Big Basin Woods Subdivision wastewater treatment plant (Big Basin Woods Subdivision WWTP or WWTP) is located at Highway 236 and Fallen Leaf Drive, Boulder Creek, Santa Cruz County, California, Assessor's Parcel Number 083-293-01 (Site). A Site map is provided in the Attachment to this Order.

3. The Big Basin Woods Subdivision WWTP collects and treats wastewater from a 28-home residential community located approximately 2.5 miles north of Boulder Creek on Big Basin Way (Highway 236) in Santa Cruz County.

4. The Big Basin Woods Subdivision WWTP is regulated by Central Coast Water Board Order No. 97-26, *Waste Discharge Requirements for Big Basin Water Company, Inc., Big Basin Woods Subdivision, Santa Cruz County* (Permit), as amended by Resolution No. R3-2013-0052 (Resolution) and the Revised Standard Provisions and Reporting Requirements (Revised Standard Provisions) adopted therein.[1]

5. The WWTP is a package activated sludge plant with a designed capacity of 35,000 gallons per day (gpd), receiving at the time of Permit issuance approximately 4,000 gpd and permitted for 7,000 gpd. The WWTP system consists of an activated sludge package plant leachfield disposal system. The WWTP is designed for treated wastewater to be pumped to a leachfield for disposal located approximately one-half mile south and uphill of the WWTP.

6. Mr. Moore is the WWTP operator and Big Basin Water Company's Chief Executive Officer. According to the State Water Resources Control Board Office of Operator Certification's database, Mr. Moore's grade II operator certification has been expired since 2013.[2]

7. A significant portion of the residential community homes served by the WWTP and portions of the WWTP were damaged or destroyed in the CZU lightning complex wildfire in August 2020 (2020 wildfire). The WWTP suffered a long-term loss of power, and several vital pieces of process and transmission equipment were destroyed.

8. After the 2020 wildfire, Central Coast Water Board staff contacted Mr. Moore. Mr. Moore explained that the WWTP's electrical system sustained damage during the 2020 wildfire; the WWTP did not have power and could not operate. Mr. Moore stated that collected wastewater would be pumped regularly from the WWTP and disposed of appropriately while the electrical system was being repaired.

9. According to the County of Santa Cruz, three properties (two homes located on Assessor's Parcel Numbers 083-291-13 and 083-291-14 and a nearby fire station) have been discharging wastewater to the WWTP since the 2020 wildfire.

10. On September 9, 2021, Santa Cruz County Department of Public Works (DPW) visited the site and observed raw sewage overflowing onto the ground from one of the WWTP basins. Santa Cruz County DPW notified Central Coast Water Board staff of the Site

[1] The Resolution and Revised Standard Provisions are accessible at the following link: 2013-0052_resolution_standard_provisions.pdf (ca.gov)

[2] Central Coast Water Board staff determined in October 2022 that the WWTP requires a grade III operator. Going forward, the WWTP must be supervised and operated by a grade III operator.

conditions on October 24, 2022.

11. On November 22, 2021, Central Coast Water Board staff spoke to Mr. Moore about the conditions at the WWTP. Central Coast Water Board staff sent at least two follow-up emails to Mr. Moore after the call to request submission of several items, including WWTP pumping records and missing monitoring reports for 2020 and 2021. Mr. Moore failed to respond to the follow-up emails.

12. On June 1, 2022, Central Coast Water Board staff received an email from Santa Cruz County Environmental Health Director Marilynn Underwood. Director Underwood explained that during a meeting she recently had with Mr. Moore that Mr. Moore said he was pumping the WWTP weekly.

13. On September 20, 2022, Central Coast Water Board staff reviewed the Santa Cruz County septic hauling online database and did not find any reports of septic hauling from the Big Basin Woods Subdivision WWTP. Central Coast Water Board staff have not been able to verify whether regular pumping has occurred at the WWTP since the 2020 wildfires.

14. On August 29, 2022, Santa Cruz County Environmental Health staff contacted the County's Mosquito Abatement and Vector Control Division regarding evidence of significant mosquito breeding within the WWTP basins. On August 30, 2022, the Santa Cruz County Mosquito and Vector Control Division inspected the Site and documented dense breeding of mosquitos at the WWTP and raw sewage overflowing from one of the WWTP basins onto the ground. On August 30, 2022, Santa Cruz County sent an email to Central Coast Water Board staff regarding the mosquito breeding at the WWTP. After their inspection, Santa Cruz County Mosquito Abatement and Vector Control Division sent a report to Mr. Moore stating that the large quantities of Culex species mosquitoes breeding at the WWTP constitute a public health concern as the mosquitoes can transmit West Nile virus. The report was later shared with Central Coast Water Board staff.

15. Santa Cruz County Mosquito Abatement and Vector Control Division has recommended continuously circulating or aerating the water within all chambers of the WWTP to prevent mosquito breeding. Mosquito Abatement and Vector Control Division staff has stated that mosquitos can breed in as little as one-fourth inch of stagnant water.

16. On September 22, 2022, Central Coast Water Board staff inspected the Big Basin Woods Subdivision WWTP and observed Permit violations explained below.

17. Santa Cruz County Mosquito Abatement and Vector Control Division has been performing regular treatment of larvicide at the WWTP at two-to-three-week intervals since August 29, 2022, and has continually observed full and overflowing WWTP basins.

18. On November 2, 2022, a California Department of Fish and Wildlife warden visited the

site and observed raw sewage overflowing one of the WWTP basins.

19. On November 10, 2022, the Central Coast Water Board issued a notice of violation to Big Basin Water Company for Permit violations. The November 10, 2022 notice of violation identified several Permit violations that relate to nuisance and the threat of pollution to underlying groundwater and surface waters, including the following:

    a. Permit section D.6 requires, "*Stand by and/or portable generators shall be available to assure compliance with requirements during power failure*." Big Basin Water Company did not have generators on the Site that would allow the WWTP to operate without electrical service.

    b. Permit section A.1 states, "*Discharge to areas other than the designated leachfield disposal area . . . is prohibited*." Big Basin Water Company discharged raw sewage onto the ground adjacent to the WWTP basins. On multiple occasions, Santa Cruz County, Central Coast Water Board, and California Department of Fish and Wildlife staff observed evidence of basin overflow.

    c. Revised Standard Provisions section A.7 states, "*Collection, treatment, or discharge of waste shall not create a nuisance or pollution, as defined by Section 13050 of the California Water Code*." Conditions at the Site have created a nuisance. Under Water Code section 13050(m), a "nuisance" means anything which meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoinment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) occurs during, or as a result of, the treatment or disposal of wastes. The WWTP has been left inoperable and is effectively functioning as open holding basins that have collected stagnant raw sewage. Santa Cruz County mosquito and vector control staff visited the site on August 30, 2022, and reported "*confirmed dense breeding of Culex species of mosquitoes which can transmit West Nile virus. The large quantities of mosquitoes produced by this wastewater treatment facility constituted a public health concern to the surrounding residents*". There is no evidence that Big Basin Water Company has removed or treated wastewater since the 2020 wildfire.

    d. Revised Standard Provision section A.10 states, "*The discharger shall prevent formation of habitat for carriers of pathogenic microorganisms in any part of the treatment and disposal system.*" Big Basin Water Company failed to prevent the formation of habitat for carriers of pathogenic microorganisms. The WWTP has been left inoperable and is collecting stagnant raw sewage that has become a breeding ground for mosquitos.

    e. Revised Standard Provision section A.12 states, "*The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and*

related appurtenances) that are installed or used by the discharger to achieve compliance with the conditions of this order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staff and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. Proper operation and maintenance shall be described in an Operation and Maintenance Manual." Big Basin Water Company has failed to properly operate and maintain all facilities and systems of treatment and control. The WWTP has neither treated wastewater nor operated system components since the 2020 wildfire, but it continues to accept raw sewage daily. The WWTP is in a status of disrepair and is not a functioning system that can prevent basin overflow and nuisance.

f. Revised Standard Provisions section A.23 states, "*The discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this order that has a reasonable likelihood of adversely affecting human health or the environment*." Big Basin Water Company has failed to take reasonable steps to minimize or prevent discharges in violation of the Permit. The collected raw sewage at the WWTP is overflowing on to the ground and will likely continue to spill on a daily basis as flows are added to the system from the connected homes. In addition, the WWTP conditions pose a significant threat of a spill reaching nearby surface waters.

g. Revised Standard Provisions section A.27 requires safeguards "*be provided to ensure maximal compliance with all terms and conditions of this order. Safeguards shall include preventative and contingency plans and may also include alternative power sources, stand-by generators, retention capacity, operating procedures, or other precautions*. . . ." Big Basin Water Company has failed to have safeguards in place to ensure compliance with the terms and conditions of the Permit. It has not prevented or minimized overflow.

20. Mr. Moore is a discharger because his actions or inactions as the WWTP operator have caused or permitted, or threaten to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state, which creates, or threatens to create, a condition of pollution or nuisance.

21. Big Basin Water Company is a discharger because, as the current owner of the Site, it has caused or permitted, or threatens to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state, which creates, or threatens to create, a condition of pollution or nuisance. As the current owner of the Site, Big Basin Water Company has the legal ability to control the discharge or threatened discharge of waste.

22. Groundwater underlying and near the WWTP are waters of the state. An unnamed ephemeral watercourse directly south of the WWTP is tributary to Boulder Creek, located immediately across Highway 236 from the WWTP. The ephemeral watercourse and Boulder Creek are waters of the state. Boulder Creek is a water of the state and/or

United States.

23. Raw sewage contains pollutants that could cause or contribute to exceedances of water quality standards when introduced to receiving waters.

24. By receiving wastewater into a nonfunctioning wastewater treatment system and allowing raw sewage to overflow the WWTP basins onto the ground, the Dischargers are causing or threatening to create a condition of pollution because the overflowing raw sewage is altering or may alter the water quality to a degree that unreasonably affects the beneficial uses of the groundwater underlying and near the WWTP and in the ephemeral watercourse and Boulder Creek.

25. The Dischargers are causing, or threatening to cause, a condition of nuisance by allowing the stagnant WWTP basins to become a mosquito breeding habitat, posing an imminent threat to public health.

LEGAL AUTHORITY

26. The Big Basin Woods Subdivision WWTP is in the Big Basin Hydrological Unit (306), as described in the *Water Quality Control Plan for the Central Coastal Basin, June 2019 Edition* (Basin Plan).

27. The Basin Plan designates beneficial uses of waters of the state, sets narrative and numerical water quality objectives to protect those beneficial uses, and establishes implementation plans to implement water quality objectives.

28. The Basin Plan has established the following potential and designated beneficial uses of groundwater in the vicinity of Big Basin Woods Subdivision WWTP:

    a. Municipal and domestic supply
    b. Agricultural water supply

29. Beneficial uses of Boulder Creek and the San Lorenzo River that could be affected by the discharge include all of the following:

    c. Municipal and domestic supply
    d. Groundwater recharge
    e. Contact and non-contact water recreation
    f. Wildlife habitat
    g. Cold freshwater habitat
    h. Fish migration
    i. Fish spawning
    j. Agricultural supply
    k. Commercial and sports finishing

30. Water Code section 13304, subdivision (a), states, in relevant part:

Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts.

31. Water Code section 13050 states, in relevant part:

(k) "Contamination" means an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

(*l*)(1) "Pollution" means an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following:
(A) The waters for beneficial uses.
(B) Facilities which serve these beneficial uses.
(2) "Pollution" may include "contamination."

(m) "Nuisance" means anything which meets all of the following requirements:
(1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
(2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
(3) Occurs during, or as a result of, the treatment or disposal of wastes.

32. Water Code section 13267, subdivision (b)(1), states:

In conducting an investigation . . ., the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region . . .shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

33. As detailed in the above findings, the Dischargers are causing, or threatening to cause, a condition of nuisance by allowing untreated domestic wastewater to collect at the Big Basin Woods Subdivision WWTP and remain stagnant, which is resulting in the

formation of habitat for carriers of pathogenic microorganisms. The conditions at the Site are a result of the treatment or disposal of wastes, are injurious to health or indecent or offensive to the senses, and affect at the same time the entire community or neighborhood served by and surrounded by the WWTP, although the extent of the annoyance or damaged inflicted upon individuals may be unequal. Additionally, the Dischargers are causing, or threating to cause, a condition of pollution in the waters of the state due to the overflow of raw sewage from ongoing contributions of untreated domestic wastewater to the WWTP, exacerbated by rainfall. Receipt of additional domestic wastewater to the WWTP while it is nonfunctioning will likely increase the overflow of raw sewage and further cause, or threaten to cause, a condition of pollution. Therefore, the Central Coast Water Board is authorized to order the Dischargers to clean up the waste, abate the effects of the waste, and to take other necessary remedial action, pursuant to Water Code section 13304.

IT IS HEREBY ORDERED, pursuant to Water Code sections 13304 and 13267, that the Dischargers must:

1. Immediately (no later than two days after the effective date of this Order) reduce wastewater levels in all the WWTP basins so that at all times there is a minimum of two feet of freeboard and more if necessary such that daily inflow and precipitation events will not result in basin overflow and discharge of raw sewage, and will not create a condition of pollution or nuisance. Compliance with this requirement may be accomplished through regular pumping of the raw sewage at the WWTP and disposal at a facility that has a current wastewater disposal permit from the Central Coast Water Board or another Regional Water Quality Control Board, and by continuously monitoring weather reports and regularly conducting visual inspections of the WWTP to assess conditions and levels of wastewater in the WWTP basins, especially prior to forecasted rain events, during rain events, and immediately following rain events.

2. Not accept any additional wastewater from properties other than the properties currently sending wastewater to the WWTP at the date of this CAO, until the Central Coast Water Board, or its delegate, certifies that one of the following conditions have been met:

    - The WWTP is meeting Permit conditions or any permit that supersedes the existing Permit.

    - An alternative plan for the treatment and or disposal of wastewater from the Big Basin Woods Subdivision has been approved by the Central Coast Water Board.

3. Abate any and all conditions that enable mosquito breeding by continuously circulating or aerating the wastewater within all chambers of the WWTP or other appropriate action.

4. Until notified otherwise by the Central Coast Water Board Executive Officer, submit weekly reports starting on Friday, November 25, 2022, and every Friday thereafter, on the status of cleanup and abatement efforts, including, at a minimum, the following

elements:

a. Daily influent flow to the WWTP in gallons per day.
b. Photo documentation of the levels of wastewater in all of the WWTP basins.
c. Freeboard measurements of the levels of wastewater in all of the WWTP basins.
d. Pumping records from the pumping service provider, including the date pumping occurred, the volume of wastewater pumped, the entity performing the pumping, and the location where the pumped wastewater was disposed of.
e. Actions taken to prevent mosquito breeding habitat.
f. Weekly rain totals received and predicted in the following week.
g. In addition to the weekly documentation, the reports must provide photos and freeboard measurements before, during and after rain events.

Central Coast Water Board enforcement staff will assess progress towards compliance with this Order when determining whether to pursue further enforcement, such as issuance of an administrative civil liability complaint pursuant to Water Code sections 13350 or 13385 for noncompliance with the Permit and for any unauthorized discharge of waste to waters of the state and/or U.S. Days of violation and the associated potential civil liability continue to accrue for each day of noncompliance.

PROVISIONS

1. The Central Coast Water Board's requirement that the Big Basin Water Company submit weekly status reports is made pursuant to Water Code section 13267. The Central Coast Water Board needs the required information to ensure compliance with this Order and the Permit. The evidence supporting this requirement is described in the findings of this Order. The cost of preparing and submitting the reports is estimated to be in the range of $300 to $750 per week.[3] The collection of weekly reports on the flows into the WWTP, status of pumping, levels of wastewater in the WWTP basins, and the prevention of mosquito habitat will enable an evaluation of the current risk of pollution from the WWTP and the condition of nuisance at the WWTP. Thus, the burden, including costs, of the status reports bears a reasonable relationship to its need and the benefits to be obtained.

2. Big Basin Water Company must submit a written 30-day advance notice to the Central Coast Water Board of any planned changes in name, ownership, control of the WWTP, or any planned physical changes to the WWTP that may affect compliance with this CAO. In the event of a change in ownership or operator, the Big Basin Water Company also must provide a 30-day advance notice, by letter, to the succeeding owner/operator of the existence of this CAO and shall submit a copy of this advance notice to the Central Coast Water Board.

3. All submittals required in conjunction with this Order must include a signed statement by the legally responsible party of the Big Basin Water Company, certifying under penalty

[3] Two to five hours a week at $150 per hour.

of perjury under the laws of the State of California that the submitted document is true, complete, and accurate. The statement must read as follows:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

All submittals required by this Order must be submitted electronically to the email addresses below:

Danial.Woldearegay@waterboards.ca.gov
and
RB3-WDR@waterboards.ca.gov

4. Pursuant to Water Code section 13304, the Central Coast Water Board is entitled to, and may seek reimbursement for, all reasonable costs it actually incurs to investigate discharges of waste and to oversee cleanup of such wastes, abatement of the effects thereof, or other remedial action, required by this Order. If directed by the Central Coast Water Board, Big Basin Water Company must reimburse the Central Coast Water Board for such costs.

5. This Order does not limit the authority of the Central Coast Water Board to institute additional enforcement actions or to require additional investigation and cleanup of the site consistent with the Water Code.

6. The Central Coast Water Board, through its Executive Officer, may revise this Order as additional information becomes available. Upon request by Big Basin Water Company, and for good cause shown, the Executive Officer may defer, delete, or extend the date of compliance for any action required of Big Basin Water Company under this Order. The authority of the Central Coast Water Board, as expressed in the Water Code, to order investigation and cleanup, in addition to that described herein, is in no way limited by this Order.

7. Failure to comply with the terms or conditions of this Order may subject Big Basin Water Company to further enforcement action, including, but not limited to, assessment of civil liability pursuant to Water Code sections 13268, 13350, and/or 13385, and/or referral to the attorney general of the state of California. The Central Coast Water Board reserves its right to take any enforcement action authorized by law.

8. Any person aggrieved by this action of the Central Coast Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23,

sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions will be provided upon request or may be found on the Internet at:
http://www.waterboards.ca.gov/public_notices/petitions/water_quality

This Order is issued under authority delegated to its executive officer by the Central Coast Water Board and is effective upon signature.

Ordered by:

Matthew T. Keeling, Executive Officer

Attachment – Site Location Map

Attachment

Figure 1: Site Location Map

Central Coast Regional Water Quality Control Board

November 29, 2022

Thomas J Moore
Big Basin Water Company, Inc.
16595 Jamison Creek Road
Boulder Creek, CA 95006
Email: bbwater197@yahoo.com

Via Certified and Electronic Mail
No. 7020 1810 0002 0773 8224

Dear Thomas J Moore:

ENFORCEMENT PROGRAM: BIG BASIN WOODS SUBDIVISION WWTP, HWY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK, SANTA CRUZ COUNTY – NOTICE OF VIOLATION FOR NOT REDUCING WASTEWATER LEVELS IN WWTP BASINS AND MISSING WEEKLY REPORT, CLEANUP AND ABATEMENT ORDER NO. R3-2022-0077

The California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) issued Cleanup and Abatement Order No. R3-2022-0077 (CAO No. R3-2022-0077) to Thomas James Moore and Big Basin Water Company, Inc. (collectively, Dischargers) on November 21, 2022. CAO R3-2022-0077 requires the Dischargers to address imminent threats to human health and water quality, and abate the condition, or threatened condition, of pollution or nuisance by taking necessary remedial action to prevent the accumulation and discharge of additional raw sewage at the Big Basin Woods Subdivision Wastewater Treatment Plant (WWTP). The purpose of this letter is to notify the Dischargers of alleged violations of CAO No. R3-2022-0077 and potential liabilities associated with those violations.

Background

During a phone call on November 22, 2022, with Central Coast Water Board staff, Thomas James Moore confirmed that he received CAO No. R3-2022-0077. Thomas James Moore explained that he was unable to find a service provider to perform pumping at the WWTP the week of November 21, 2022, due to the short holiday work week and that he planned to pump a total of 10,000 gallons of wastewater out of the WWTP basins by November 29, 2022. In an email on November 23, 2022, Central Coast Water Board staff explained to Thomas James Moore that if the wastewater levels in all the WWTP basins are not kept at a minimum of two feet of freeboard, and more if necessary, before November 24, 2022, the Dischargers would be out of

compliance with CAO No. R3-2022-0077 and subject to potential additional enforcement, including monetary penalties. Central Coast Water Board staff also reminded Thomas James Moore that the first weekly status report for CAO No. R3-2022-0077 would be due on November 25, 2022.

Alleged Violations

The Central Coast Water Board issues this notice of violation to inform the Dischargers of the following alleged violations of CAO No. R3-2022-0077:

1. ***Violation of Requirement 1 of CAO No. R3-2022-0077 (page 8)*** – Requirement 1 of CAO No. R3-2022-0077 (Requirement 1) requires the Dischargers to "*immediately (no later than two days after the effective date of this Order) reduce wastewater levels in all the WWTP basins so that at all times there is a minimum of two feet of freeboard and more if necessary such that daily inflow and precipitation events will not result in basin overflow and discharge of raw sewage, and will not create a condition of pollution or nuisance."* Based on Central Coast Water Board staff's conversation with Thomas James Moore on November 22, 2022, it is the Central Coast Water Board's understanding that the Dischargers were not planning to reduce wastewater levels in the WWTP basins to a minimum of two feet of freeboard until November 29, 2022, at the earliest. Therefore, the Dischargers violated Requirement 1 from at least November 24, 2022 through November 28, 2022. The days of violation will continue to accrue until WWTP basins are at levels required by Requirement 1.

2. ***Violation of Requirement 4 of CAO No. R3-2022-0077 (pages 8-9)*** – Requirement 4 of CAO No. R3-2022-0077 (Requirement 4) requires the Dischargers to "…*submit weekly reports starting on Friday, November 25, 2022, and every Friday thereafter, on the status of cleanup and abatement efforts* [reporting elements omitted] …" As of November 29, 2022, the Dischargers have not submitted the first weekly status report due on November 25, 2022.

Potential Administrative Civil Liabilities

The Dischargers are hereby on notice that their failure to immediately reduce wastewater levels in all WWTP basins, is a violation of Requirement 1 made pursuant to California Water Code (Water Code) section 13304. Pursuant to Water Code section 13350, subdivisions (a) and (e), any person who violates a cleanup and abatement order issued by a regional water quality control board may be subject to administrative civil liability up to $5,000 per day for each day in which the violation occurs. The Dischargers' failure to comply with Requirement 1 from November 24, 2022 to November 28, 2022, subjects the Dischargers to a maximum administrative civil liability of $25,000 (five days of violation times $5,000) under Water Code section 13350. The administrative civil liability will continue to accrue up to $5,000 per day of violation until wastewater levels in all WWTP basins are reduced so that at all times there is a minimum of two feet of freeboard and more if necessary such that daily inflow and

precipitation events will not result in basin overflow and discharge of raw sewage, and will not create a condition of pollution or nuisance.

The Dischargers are hereby on notice that their failure to submit the first weekly report by November 25, 2022, is a violation of Requirement 4 made pursuant to Water Code section 13267. Pursuant to Water Code section 13268, any person failing or refusing to furnish technical or monitoring program reports required under Water Code section 13267, is guilty of a misdemeanor and subject to an administrative civil liability of up to $1,000 for each day in which the violation occurs. The Dischargers' failure to submit the weekly report from November 26, 2022 to November 28, 2022, subjects them to a maximum administrative civil liability of $3,000 (three days of violation times $1,000). The administrative civil liability will continue to accrue up to $1,000 per day of violation until the Dischargers submit a complete and adequate first weekly status report. The Dischargers will also be subject to a potential maximum administrative civil liability up to $1,000 per day for all future weekly reports that are not submitted by the required due date.

Please be advised that the Dischargers' failure to comply with CAO No. R3-2022-0077 gives the Central Coast Water Board the authority to refer the matter to the Attorney General of the State of California. If such referral is made, the Attorney General shall petition the Superior Court of Santa Cruz County for the issuance of an injunction requiring the Dischargers to comply with CAO No. R3-2022-0077. Pursuant to Water Code section 13350, subdivision (d), the court may also impose a civil liability up to $15,000 for each day a violation of CAO No. R3-2022-0077 occurs.

If you have a questions, please contact Central Coast Water Board staff **Mark Lemus at (805) 549-3703, Mark.Lemus@Waterboards.ca.gov**, **Danial Woldearegay** at **(805) 549-3892, Danial.Woldearegay@Waterboards.ca.gov**, or Jennifer Epp at (805) 594-6181, **Jennifer.Epp@Waterboards.ca.gov**.

Sincerely,

Thea S. Tryon
Assistant Executive Officer

cc:
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Chavez, Moises moises.chavez@cpuc.ca.gov
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George Thomas, George.thomas@santacruzcounty.us
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Todd Stanley, Todd.Stanley@Waterboards.ca.gov
Paul Ciccarelli, Paul.Ciccarelli@Waterboards.ca.gov
WDR Program, RB3-WDR@Waterboards.ca.gov

ECM/CIWQS = 147027
GeoTracker No. = WDR100027894
ECM Subject Name = Big Basin Woods Subdivision WWTP CAO NOV
\\ca.epa.local\RB\RB3\Enforcement\Case Files\Big Basin WWTP\Emerg_CAO\Big Basin CAO_NOV.docx

EXHIBIT Z

December 29, 2022

(Via email and Certified Mail)
CERTIFIED MAIL
NO. 7021 2720 0003 2610 9480

Mr. Thomas J. Moore
Big Basin Water Company, Inc.
16595 Jamison Creek Road
Boulder Creek, California 95006
bbwater197@yahoo.com

SUBJECT: NOTICE OF VIOLATION – EMPLOYING OPERATORS WITHOUT A VALID, UNEXPIRED OPERATOR CERTIFICATE; FAILURE TO MAINTAIN A CHIEF PLANT OPERATOR AT THE CORRECT GRADE LEVEL; AND ALLOWING PERMIT VIOLATIONS OF ORDER 97-26

Dear Mr. Moore:

The State Water Resources Control Board's (State Water Board) Office of Enforcement (OE) has determined that Big Basin Water Company, Inc. (hereafter, Discharger), owner and operator of the Big Basin Sewage Treatment Plant (Big Basin STP), violated the Wastewater Operator Certification Regulations.[1]

On October 28, 2022, the Central Coast Regional Water Quality Control Board (Central Coast Water Board) reached out to the Office of Operator Certification (OOC) to confirm system classification and operator requirements for Big Basin STP. The investigation revealed that Big Basin STP has a Wastewater Treatment Plant (WWTP) Classification Data Form dated December 10, 2009, received by OOC on December 15, 2009, that classified Big Basin STP as a Grade II WWTP. Changes to the Wastewater Operator Certification Regulations in 2013 would have reclassified the Big Basin STP as a Grade III WWTP. On November 22, 2022, OOC issued a reclassification form to Big Basin STP and informed the Discharger that the WWTP requires a Grade III Chief Plant Operator (CPO). OOC also informed OE that the WWTP does not have a certified operator.

On November 28, 2022, OE staff met with Central Coast Water Board staff to discuss Big Basin STP. Central Coast Water Board staff provided documents and information which is summarized below:

[1] The State Water Resources Control Board's Wastewater Operator Certification regulations are codified in the California Code of Regulations, title 23, division 3, chapter 26, section 3670 et seq.

- You, Mr. Moore, owner of Big Basin Water Company Inc. and operator for the Big Basin STP, previously held a Grade II Wastewater Operator Certificate that expired on June 30, 2013.
- You are the only operator for Big Basin STP.
- Big Basin STP was operational until the CZU Lightning Complex Fire in August 2020, at which point you indicated that wastewater collected at the WWTP would be pumped and disposed of regularly since the WWTP would not be able to treat the waste.
- The Central Coast Water Board has not been able to verify that regular pumping has occurred since you failed to provide pumping records, and the Central Coast Water Board has not been able to find any reports of septic hauling from the Santa Cruz County septic hauling online database.
- The Central Coast Water Board inspected the WWTP in September 2022 and observed numerous violations of the Big Basin STP's permit, Order 97-26, which are noted below:
    - Not having a generator on site allowing to operate without electricity.
    - Discharge to areas other than the designated leachfield disposal area.
    - Discharge creating a nuisance or pollution.
    - Discharge allowing the formation of habitat for carriers of pathogenic microorganisms.
    - Failing to properly operate and maintain the WWTP.
    - Failing to take all reasonable steps to minimize or prevent discharge in violation of the permit.
    - Failure to provide safeguards to ensure maximal compliance, such as preventative and contingency plans, alternative power sources, retention capacity, and operating procedures.
    - Failure to submit quarterly reports.
    - Effluent exceedances of settleable solids.
    - Failure to ensure operations are done by an operator with a valid, unexpired operator certificate.
- The Central Coast Water Board issued a Notice of Violation to the Discharger on November 10, 2022, for the permit violations, and Cleanup and Abatement Order R3-2022-0077 on November 21, 2022, requiring the Discharger to reduce the accumulated raw sewage from the WWTP to address imminent threats to human health and water quality and take necessary remedial action to prevent the accumulation and discharge of additional raw sewage and abate the condition, or threatened condition, of pollution or nuisance

OE has determined that the Big Basin STP is in violation of the Wastewater Operator Certification Regulations by failing to maintain a CPO at the correct grade level, employing operators without a valid, unexpired certificate, and willfully or negligently violating waste discharge requirements.

OE demands that you comply with all wastewater operator certification regulations. Further instances of non-compliance may result in additional penalties or enforcement actions by OE.

STATUTORY AND REGULATORY AUTHORITY

California Code of Regulations, title 23, division 3, chapter 26, section 3709, states, in part, the following:

> "(b) The State Water Board may impose administrative civil liability in an amount not to exceed $100 for each day of violation upon:
>
> (1) Any person who operates a wastewater treatment plant without holding a valid, unexpired certificate at the appropriate grade level as required by this chapter; or,
>
> (2) Any person who owns or operates a wastewater treatment plant that employs, or allows the employment of, any person as an operator who does not hold a valid, unexpired certificate of the appropriate grade level as required by this chapter.
>
> (c) The State Water Board may impose administrative civil liability in an amount not to exceed $5,000 for each violation upon any person for any of the following acts:
>
> (2) Failing to use reasonable care of judgment in the operation of a wastewater treatment plant;
>
> (3) Willfully or negligently violating or causing, or allowing the violation of waste discharge requirements."

If you have any questions regarding this matter, please contact Mr. German Myers at german.myers@waterboards.ca.gov.

Sincerely,

Bryan K. Elder Digitally signed by Bryan K. Elder
Date: 2022.12.29 12:51:41 -08'00'
Water Boards

Bryan Elder, PE
Supervising Water Resource Control Engineer
Office of Enforcement

cc: See next page.

cc: *(via email only)*

Big Basin Woods Subdivision WWTP
Thomas J Moore, Big Basin Water Company, Inc.
sjm16595@gmail.com

California Public Utilities Commission
Bruce DeBerry
Water Division Program Manager
bruce.deberry@cpuc.ca.gov

Moises Chavez
Water Division Program and Project Supervisor
moises.chavez@cpuc.ca.gov

Santa Cruz County
Matthew Machado
Director of Community Development & Infrastructure
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Kent Edler
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David Reid
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Andrew Strader
Interim Director of Environmental Health
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cc: *(continued)*

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thea.tryon@waterboards.ca.gov

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Paul Ciccarelli, OE
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Laura Mooney, OE
laura.mooney@waterboards.ca.gov

German Myers, OE
german.myers@waterboards.ca.gov

EXHIBIT AA

January 19, 2023

Thomas James Moore
Big Basin Water Company, Inc.
16595 Jamison Creek Road
Boulder Creek, CA 95006
Email: sjm16595@gmail.com

Via Electronic Mail

and

Big Basin Water Company, Inc.
c/o Thomas James Moore
16595 Jamison Creek Road
Boulder Creek, CA 95006
Email: sjm16595@gmail.com

Via Electronic Mail

Dear Thomas James Moore:

ENFORCEMENT PROGRAM: BIG BASIN WOODS SUBDIVISION WWTP, HWY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK, SANTA CRUZ COUNTY – NOTICE OF VIOLATION FOR NOT REDUCING WASTEWATER LEVELS IN WWTP BASINS AND MISSING WEEKLY REPORTS, CLEANUP AND ABATEMENT ORDER NO. R3-2022-0077

On November 21, 2022, the California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) issued Cleanup and Abatement Order No. R3-2022-0077 (CAO No. R3-2022-0077) to Thomas James Moore and Big Basin Water Company, Inc. (collectively, Dischargers). CAO No. R3-2022-0077 requires the Dischargers to address imminent threats to human health and water quality, and abate the condition, or threatened condition, of pollution or nuisance by taking necessary remedial action to prevent the accumulation and discharge of additional raw sewage at the Big Basin Woods Subdivision Wastewater Treatment Plant (WWTP). The purpose of this letter is to notify the Dischargers of alleged violations of CAO No. R3-2022-0077 and potential liabilities associated with those violations.

Background

On November 29, 2022, the Central Coast Water Board sent a notice of violation (NOV) to the Dischargers for the following violations: 1) Violation of Requirement 1 of CAO No.

R3-2022-0077 for the failure to reduce wastewater levels in all WWTP basins to maintain a minimum of two feet of freeboard from at least November 24, 2022 through November 28, 2022; and 2) Violation of Requirement 4 of CAO No. R3-2022-0077 for the failure to submit the first weekly status report on November 25, 2022.

On November 29, 2022, Santa Cruz County (County) notified the Central Coast Water Board that the Dischargers had pumped the WWTP basins to at least two feet of freeboard; the County provided photo documentation to confirm freeboard levels.

From November 30, 2022, to the date of this NOV, the Central Coast Water Board is aware of multiple instances when the WWTP basins did not have a minimum of two feet of freeboard, which is a violation of Requirement 1 of CAO No. R3-2022-0077. For example, photo documentation provided by the County shows less than two feet of freeboard on December 8, 2022, and December 12, 2022.

The County informed the Central Coast Water Board that they hired a contractor to conduct periodic pumping and hauling of the WWTP basins starting on December 9, 2022. On January 1, 2023, the County informed the Central Coast Water Board that it had suspended all pumping and hauling of the WWTP basins due to storms. On January 12, 2023, the County confirmed it had not conducted any pumping and hauling of the WWTP basins to date in January 2023. From January 1, 2023 to January 12, 2023, there have been multiple precipitation events. Due to the Dischargers' failure to submit weekly status reports, the Central Coast Water Board has no evidence to demonstrate that the WWTP basins had sufficient freeboard prior to the precipitation events to prevent overflow and discharge of raw sewage from the WWTP basins.

Alleged Violations for Not Meeting WWTP Basin Freeboard Requirements

Alleged Violations of Requirement 1 of CAO No. R3-2022-0077 (page 8)

Requirement 1 of CAO No. R3-2022-0077 (Requirement 1) requires the Dischargers to "*immediately (no later than two days after the effective date of this Order) reduce wastewater levels in all the WWTP basins so that at all times there is a minimum of two feet of freeboard and more if necessary such that daily inflow and precipitation events will not result in basin overflow and discharge of raw sewage, and will not create a condition of pollution or nuisance."* From November 30, 2022, to the date of this NOV, it is the Central Coast Water Board's understanding that the Dischargers have failed to maintain a minimum of two feet of freeboard in the WWTP basins for multiple days.

Although the County has performed some pumping of the WWTP as a courtesy to the landowners, the Dischargers are ultimately responsible for maintaining a minimum of two feet of freeboard at all times, regardless of whether the County pumps wastewater from the WWTP.

Potential Administrative Civil Liability

The Dischargers are hereby on notice that their failure to reduce wastewater levels in all WWTP basins so that at all times there is a minimum of two feet of freeboard, and more

if necessary such that daily inflow and precipitation events will not result in basin overflow and discharge of raw sewage, and will not create a condition of pollution or nuisance, is a violation of Requirement 1 made pursuant to California Water Code (Water Code) section 13304. Pursuant to Water Code section 13350, subdivisions (a) and (e), any person who violates a cleanup and abatement order issued by a regional water quality control board may be subject to administrative civil liability up to $5,000 per day for each day in which the violation occurs.

Alleged Violations for Missing Weekly Reports

Alleged Violations of Requirement 4 of CAO No. R3-2022-0077 (pages 8-9)

Requirement 4 of CAO No. R3-2022-0077 (Requirement 4) requires the Dischargers to "*submit weekly reports starting on Friday, November 25, 2022, and every Friday thereafter, on the status of cleanup and abatement efforts* [reporting elements omitted] …" From the issuance of the November 29, 2022 NOV to the date of this NOV, the Dischargers have not submitted the weekly status reports due on December 2, 2022, December 9, 2022, December 16, 2022, December 23, 2022, December 30, 2022, January 6, 2023, and January 13, 2023.

Potential Administrative Civil Liability

The Dischargers are hereby on notice that their failure to submit the weekly reports due December 2, 2022, December 9, 2022, December 16, 2022, December 23, 2022, December 30, 2022, January 6, 2023, and January 13, 2023 are violations of Requirement 4 made pursuant to Water Code section 13267. Pursuant to Water Code section 13268, any person failing or refusing to furnish technical or monitoring program reports required under Water Code section 13267, is guilty of a misdemeanor and subject to an administrative civil liability of up to $1,000 for each day in which the violation occurs. As of the date of this NOV, the Dischargers' failure to submit the weekly reports due December 2, 2022, December 9, 2022, December 16, 2022, December 23, 2022, December 30, 2022, January 6, 2023, and January 13, 2023, subjects them to a maximum administrative civil liability of $189,000 (189 days of violation times $1,000). The administrative civil liability will continue to accrue up to $1,000 per day of violation until the Dischargers submit complete and adequate weekly status reports for the missing reports. The Dischargers will also be subject to a potential maximum administrative civil liability up to $1,000 per day for all future weekly reports that are not submitted by the required due dates.

Please be advised that the Dischargers' failure to comply with CAO No. R3-2022-0077 gives the Central Coast Water Board the authority to refer this matter to the Attorney General of the State of California. If such referral is made, the Attorney General shall petition the Superior Court of Santa Cruz County for the issuance of an injunction requiring the Dischargers to comply with CAO No. R3-2022-0077. Pursuant to Water Code section 13350, subdivision (d), the court may also impose a civil liability up to $15,000 for each day a violation of CAO No. R3-2022-0077 occurs.

If you have a questions, please contact Central Coast Water Board staff **Mark Lemus at (805) 549-3703, Mark.Lemus@Waterboards.ca.gov**, **Danial Woldearegay** at **(805) 549-3892, Danial.Woldearegay@Waterboards.ca.gov**, or Jennifer Epp at (805) 594-6181, **Jennifer.Epp@Waterboards.ca.gov**.

Sincerely,

Thea S. Tryon

Digitally signed by Thea S. Tryon
Date: 2023.01.19 07:48:28 -08'00'

Water Boards

Thea S. Tryon
Assistant Executive Officer

cc:
Santa Cruz County (County)
Matthew Machado, Director of Community Development & Infrastructure matt.machado@santacruzcounty.us
Carolyn Burke, Assistant Director of Community Development & Infrastructure, Permit Center, Carolyn.Burke@santacruzcounty.us
Kent Edler, Assistant Director of Community Development & Infrastructure, Sanitations and Engineering, Kent.Edler@santacruzcounty.us
David Reid, Director Office of Response, Recovery & Resilience, David.Reid@santacruzcounty.us
Andrew Strader, Interim Director of Environmental Health, andrew.strader@santacruzcounty.us

California Public Utilities Commission (CPUC)
Bruce DeBerry, Water Division Program Manager, bruce.deberry@cpuc.ca.gov
Moises Chavez, Water Division Program and Project Supervisor, moises.chavez@cpuc.ca.gov

Santa Cruz District Attorney's Office
Edward T. Browne, Assistant District Attorney, Edward.Browne@santacruzcounty.us

California Department of Fish and Wildlife (CDFW)
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Kristy Emershy, Warden, Kristy.Emershy@wildlife.ca.gov
Megan Indermill, Warden, Megan.Indermill@Wildlife.ca.gov

Central Coast Regional Water Quality Control Board (Central Coast Water Board)
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Todd Stanley, Todd.Stanley@waterboards.ca.gov
Jesse Woodard, Jesse.Woodard@Waterboards.ca.gov
WDR Program, RB3-WDR@Waterboards.ca.gov

State Water Resources Control Board (State Water Board) Office of Enforcement
Paul Ciccarelli (attorney representing Central Coast Water Board for wastewater issues), Paul.Ciccarelli@Waterboards.ca.gov
Laura Mooney (attorney representing DDW for water issues), Laura.Mooney@Waterboards.ca.gov

State Water Board Division of Drinking Water (DDW)
Jonathan Weininger, Jonathan.Weininger@waterboards.ca.gov
Stefan Cajina, Stefan.Cajina@waterboards.ca.gov
Shaminder Kler, Shaminder.kler@waterboards.ca.gov

ECM/CIWQS = 147027
GeoTracker No. = WDR100027894
ECM Subject Name = Big Basin Woods Subdivision WWTP CAO NOV2
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EXHIBIT BB

Central Coast Regional Water Quality Control Board

January 19, 2023

Big Basin Water Company, Inc.
c/o Thomas J Moore
16595 Jamison Creek Road
Boulder Creek, CA 95006
Email: sjm16595@gmail.com

Via Electronic Mail

Dear Thomas J Moore:

ENFORCEMENT PROGRAM: BIG BASIN WOODS SUBDIVISION WWTP, HWY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK, SANTA CRUZ COUNTY – NOTICE OF VIOLATION FOR FAILURE TO SUBMIT REPORT OF WASTE DISCHARGE

The California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) is a state regulatory agency with the responsibility for protecting the quality of the waters of the state within its area of jurisdiction. The Central Coast Water Board has authority to require submission of information, direct action, establish regulations, levy penalties, and bring legal action when necessary to protect water quality. This notice of violation is to notify Big Basin Water Company, Inc. of an alleged violation for failing to comply with the requirement to submit a report of waste discharge and potential monetary penalties for this violation.

Background

The Central Coast Water Board regulates the treatment and disposal of wastewater from the Big Basin Woods Subdivision Wastewater Treatment Plant (WWTP), located at Hwy 236 and Fallen Leaf Drive, Boulder Creek, Santa Cruz, California, under Central Coast Water Board's *Waste Discharge Requirements Order No. 97-26* (Permit No. 97-26). Big Basin Water Company, Inc. is responsible for complying with Permit No. 97-26 requirements.

On May 20, 2022, the Central Coast Water Board issued a requirement for Big Basin Water Company, Inc. to submit a report of waste discharge (also known as an application or a notice of intent) to enroll in the *State Water Resources Control Board General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems Order WQ 2014-0153-DWQ* (Small General Permit). The Big Basin Water Company Inc. was required to submit the report of waste discharge by June 20, 2022, pursuant to California Water Code section 13260 (13260 Order). A copy of the 13260 Order is attached to this notice of violation for reference.

Alleged Violation

To date, the Central Coast Water Board has not received a report of waste discharge from the Big Basin Water Company, Inc. to enroll waste discharges from the WWTP in the Small General Permit. During the September 22, 2022 inspection, Central Coast Water Board staff reminded the representative for Big Basin Water Company, Inc. about the 13260 Order. In the November 10, 2022 notice of violation for wastewater treatment system operations, the Central Coast Water Board again reminded Big Basin Water Company, Inc. of the outstanding 13260 Order. Big Basin Water Company, Inc.'s failure to submit the report of waste discharge to enroll in the Small General Permit is a violation of California Water Code section 13260.

Potential Liabilities

To avoid continued accrual of civil administrative liability penalties of up to $1,000 per day for each day the violations occurs, the Big Basin Water Company, Inc. must immediately submit a completed report of waste discharge to enroll waste discharges from the WWTP in the Small General Permit as described in the attached 13260 Order. Failure to provide the required information may subject the Big Basin Water Company, Inc. to enforcement action by the Central Coast Water Board, including civil administrative liability penalties of up to $1,000 per day for each day the violation occurs, pursuant to California Water Code section 13261.

California Water Code section 13261 states, in relevant part:

(a) Any person failing to furnish a report or pay a fee under section 13260 when so requested by a regional board is guilty of a misdemeanor and may be liable civilly in accordance with subdivision (b).
(b) (1) Civil liability may be administratively imposed by a regional board … in an amount that may not exceed one thousand dollars ($1,000) for each day in which the violation occurs.

If the Central Coast Water Board imposes a penalty, the Big Basin Water Company, Inc. must still submit a completed report of waste discharge to enroll in the Small General permit. As of the date of this notice of violation, the Big Basin Water Company, Inc. is 213 days late in submitting a completed report of waste discharge to enroll in the Small General Permit and subject to a maximum penalty of $213,000.

The Central Coast Water Board reserves its right to take any enforcement action authorized by law, including seeking penalties for unauthorized discharges.

If you have a questions, please contact Central Coast Water Board staff **Danial Woldearegay at (805) 549-3892, Danial.Woldearegay@Waterboards.ca.gov**, or Mark Lemus at (805) 549-3703, Mark.Lemus@Waterboards.ca.gov, or Jennifer Epp at (805) 594-6181, Jennifer.Epp@Waterboards.ca.gov.

Sincerely,

Thea S. Tryon

Digitally signed by Thea S. Tryon
Date: 2023.01.19 07:44:14 -08'00'

for Thea S. Tryon
Assistant Executive Officer

Attachment: May 20, 2022 California Water Code section 13260 Requirement to Submit Report of Waste Discharge

cc:

Santa Cruz County
Matthew Machado, Director of Community Development & Infrastructure
matt.machado@santacruzcounty.us
Carolyn Burke, Assistant Director of Community Development & Infrastructure, Permit Center, Carolyn.Burke@santacruzcounty.us
Kent Edler, Assistant Director of Community Development & Infrastructure, Sanitations and Engineering, Kent.Edler@santacruzcounty.us
David Reid, Director of the Office of Response, Recovery & Resilience, David.Reid@santacruzcounty.us
Andrew Strader, Interim Director of Environmental Health, andrew.strader@santacruzcounty.us

Santa Cruz District Attorney's Office
Edward T. Browne, Assistant District Attorney, Edward.Browne@santacruzcounty.us

California Public Utilities Commission
Bruce DeBerry, Water Division Program Manager, bruce.deberry@cpuc.ca.gov
Moises Chavez, Water Division Program and Project Supervisor, moises.chavez@cpuc.ca.gov

California Department of Fish and Wildlife
Jeff Heitzenrater, Lieutenant Supervisor Jeff.Heitzenrater@wildlife.ca.gov
Kristy Emershy, Warden, Kristy.Emershy@wildlife.ca.gov
Megan Indermill, Warden, Megan.Indermill@Wildlife.ca.gov

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Central Coast Water Board
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Tamara Anderson, Tamara.Anderson@waterboards.ca.gov
Todd Stanley, Todd.Stanley@waterboards.ca.gov
Jesse Woodard, Jesse.Woodard@waterboards.ca.gov
WDR Program, RB3-WDR@Waterboards.ca.gov

ECM/CIWQS = 209483
GeoTracker No. = WDR100027894
ECM Subject Name = NOV for failure to comply with 13260 directive for Big Basin Woods Subdivision
R:\RB3\Shared\WDR\WDR Facilities\Santa Cruz Co\Big Basin Woods Subdiv\2022

May 20, 2022

Big Basin Woods Subdivision
Po Box 197
Boulder Creek, CA 95006
Email: bbwater197@yahoo.com

Sent Via Electronic Mail

Dear Big Basin Woods Subdivision,

BIG BASIN WOODS SUBDIVISION, HWY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK, SANTA CRUZ COUNTY – REQUIREMENT FOR NOTICE OF INTENT / REPORT OF WASTE DISCHARGE FOR DISCHARGES OF DOMESTIC WASTEWATER

Big Basin Water Company is currently enrolled in Order No. 97-026, individual waste discharge requirements for discharges of domestic wastewater to land from the Big Basin Woods Subdivision (individual permit). On September 23, 2014, the State Water Quality Control Board adopted *Order WQ 2014-0153-DWQ, General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems (Small General Permit)* which provides regulatory coverage for wastewater systems with a monthly average flow rate of 100,000 gallons per day or less. Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff reviewed the available documents associated with your wastewater system and determined that your facility would be more appropriately regulated under the Small General Permit.

A copy of the **Small General Permit** can be obtained at the following link:

https://www.waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/2014/2014%20small%20domestic%20GP.pdf

REQUIREMENT FOR A NOTICE OF INTENT

The Central Coast Water Board requires that the Big Basin Water Company submit a notice of intent serving as an application (also referred to as a report of waste discharge) for enrollment of Big Basin Water Company in the Small General Permit for discharges from the Big Basin Woods Subdivision by **June 20, 2022**.

The notice of intent must be completed electronically using the application form found at the following web location, under the heading "Permit Application to Discharge Less than 100,000 GPD of Domestic Wastewater (Central Coast Region)":

https://www.waterboards.ca.gov/centralcoast/water_issues/programs/wastewater_permitting/

The web location above also includes a link to the application questions and instructions on how to apply.

The Central Coast Water Board's requirement that Big Basin Water Company submit a notice of intent is made pursuant to section 13260 of the California Water Code.

Once the Central Coast Water Board deem Big Basin Water Company's application complete, the Central Coast Water Board will terminate the individual permit and issue a notice of applicability. Issuance of the notice of applicability authorizes coverage and enrollment of the Big Basin Water Company in the Small General Permit for discharges from the Big Basin Woods Subdivision. Big Basin Water Company must comply with the conditions of the Small General Permit upon receipt of the notice of applicability.

SUMMARY OF REGULATORY PERMIT COVERAGE

The permit history for Big Basin Water Company's, Big Basin Woods Subdivision, is provided in Table 1.

Table 1: Big Basin Woods Subdivision Permit History

Order No.	Start Date	End Date
Waste Discharge Requirements Order No. 97-026 for Big Basin Water Company	12/5/1997	Present[1]

1. Big Basin Water Company's existing individual permit will be terminated upon the Central Coast Water Board's issuance of a notice of applicability enrolling the wastewater facility into the Small General Permit.

PERMIT FEES

No application fee is required, as Big Basin Water Company paid its annual fee on March 15, 2022 for coverage under the existing individual permit. Big Basin Water Company must continue to pay an annual fee to maintain permit coverage. The facility is currently assigned a threat and complexity rating of 3B which currently has an associated permit fee of $3,743. Fees are charged (and updated) annually and are based on threat and complexity ratings, and the treatment technology employed. Threat and complexity ratings are defined in the fee schedule listed in California Code of Regulations, title 23, section 2200 and available at:

https://www.waterboards.ca.gov/resources/fees/water_quality/#wdr

LEGAL REQUIREMENTS

Pursuant to California Water Code section 13260, Big Basin Water Company must file a report of waste discharge (also referred to as a notice of intent) serving as an application for enrollment in the Small General Permit. Pursuant to California Water Code section 13261, failure to furnish a notice of intent by **June 20, 2022**, may subject Big Basin Water Company to administrative civil liability (monetary penalties) of up to $1,000 for each day of violation. If the Central Coast Water Board imposes a penalty, the required information still needs to be submitted. The Central Coast Water Board reserves the right to take any enforcement action authorized by law.

The Central Coast Water Board recommends that Big Basin Water Company immediately review the Small General Permit and coordinate with the Central Coast Water Board to determine the site-specific effluent limitations for their treatment technology and underlying groundwater basin. For questions regarding this letter, please contact Central Coast Water Board staff **Danial Woldearegay at (805) 549-3892 or Danial.Woldearegay@Waterboards.ca.gov**, or Jennifer Epp at (805) 594-6181.

Sincerely,

Jennifer Epp Digitally signed by Jennifer Epp
Date: 2022.05.20 12:37:54 -07'00'

for Matthew T. Keeling
Executive Officer

cc:
Danial Woldearegay, danial.woldearegay@waterboards.ca.gov
Jennifer Epp, Jennifer.Epp@Waterboards.ca.gov
WDR Program, RB3-WDR@Waterboards.ca.gov

ECM/CIWQS = 209483
GeoTracker No. = WDR100027894
Rev 5/10/2022
ECM Subject Name = 13260 for Big Basin Woods Subdivision
R:\RB3\Shared\WDR\WDR Facilities\Santa Cruz Co\Big Basin Woods Subdiv\2022

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Attorneys for Petitioner, California State Water Resources Control Board, Division of Drinking Water

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SANTA CRUZ

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, DIVISION OF DRINKING WATER, Petitioner, **v.** **BIG BASIN WATER COMPANY, INC., THOMAS JAMES MOORE,** and **SHIRLEY MOORE,** Respondents.	Case No. _____ **DECLARATION OF CURTIS WRIGHT IN SUPPORT OF APPLICATION FOR RECEIVER OVER BIG BASIN WATER COMPANY**

DECLARATION OF COURT RECEIVER SILVER & WRIGHT LLP

MANAGING PARTNER CURTIS WRIGHT

I, Curtis Wright, as the managing partner of Silver & Wright LLP ("S&W"), declare as follows:

1. S&W is a California based law firm primarily dedicated to the abatement of nuisances and dangerous conditions on private commercial and residential properties throughout the State with significant specialization in court receiverships.

2. I am an attorney duly authorized to practice before all courts of the State of California. I submit this Declaration on behalf of S&W in connection with the California State Water Resources Control Board, Division of Drinking Water's ("Division") receivership action regarding the public water system known as the Big Basin Water Company ("System").

3. S&W has been involved in hundreds of health and safety receivership actions in California over the past ten years. The experience of S&W with rehabilitating dilapidated and decaying properties ranges from industrial properties to large condominium developments, apartment complexes, single-family homes, and vacant parcels. S&W has been involved in health and safety receiverships in jurisdictions throughout the State.

4. In the course of its involvement in court receiverships, S&W has obtained or facilitated the securing of millions in rehabilitation funding for rehabilitation projects. I am familiar with most of the major funding sources for receivership rehabilitation projects in California, and I have the preexisting relationships that should make hundreds of thousands in funding available for this matter.

5. I am an expert in nuisance abatement law and have been published, taught classes, and presented on virtually all aspects of nuisance abatement, especially health and safety receiverships, for numerous public agencies, law enforcement agencies, and municipal organizations all over the State—including presenting to the California Receivers Forum specifically on health and safety receiverships. A true and correct copy of my Curriculum Vitae is attached to this Declaration as Exhibit A and it is incorporated herein.

6. I have been given some preliminary information on the System, and I and my staff have done some preliminary research on the System. Although I lack the comprehensive knowledge of the System

necessary to form a complete professional opinion about what rehabilitation efforts and funding may be necessary for this appointment, my preliminary analysis indicates that the System is undercapitalized and generating insufficient revenues. Upon appointment, I will need to obtain comprehensive information about the System to develop a plan to raise capital to fund the receivership estate, increase revenues, make infrastructure improvements, improve operational reliability, and transition the System to a reliable operator.

7. Based upon the current owners' operation of the System, appointing a court receiver over the System seems appropriate and necessary to bring the System back into compliance with legal operational standards and best practices for safe drinking water.

8. S&W is willing to serve as court receiver for the System, to assess the System to develop a funding, operations, and improvement plan, to retain a System operator to manage the System, to increase water rates as appropriate and as approved by the California Public Utilities Commission, to raise capital as necessary and available to fund improvements and repairs to the System, to repair and remedy the existing substandard conditions as feasible, and to facilitate a transfer of the System to a long-term reliable operator, as directed by the Court.

9. S&W's rates are $385 per hour for services rendered by its staff.

10. No one at S&W is a party to these proceedings, nor an attorney for any party in these proceedings. To the best of my knowledge, no one at S&W is related to, nor affiliated with, any party to these proceedings nor any attorney for any party. To the best of my knowledge, no one at S&W is related to any judge of this Court by consanguinity or affinity within the third degree.

11. There exists no contract, agreement, arrangement, nor understanding between S&W and any party, person, nor third-party concerning:

a. What S&W's role as court receiver will be during or after the receivership.

b. Whether S&W, or any company that S&W works with, will receive any listing or right to manage the System after termination of the receivership.

c. How S&W will administer the receivership, other than in lawful compliance with this Court's orders.

d. What capital expenditures will be made with respect to the System, other than as necessary to operate the System in compliance with the law and best practices.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Dated: July 5, 2023

Curtis R. Wright, Esq.
for SILVER & WRIGHT LLP
Court Receiver

EXHIBIT A

COURT RECEIVER SILVER & WRIGHT LLP

MANAGING PARTNER CURTIS WRIGHT

CURRICULUM VITAE

SILVER & WRIGHT LLP
Attorneys at Law

COURT RECEIVERS

CURTIS R. WRIGHT

California Bar Number 273323
949-529-5922 | CWright@SilverWrightLaw.com
3 Corporate Park, Suite 100, Irvine, California 92606

LEGAL EXPERIENCE

SILVER & WRIGHT LLP — California
Managing Partner — 2013–Present
Statewide Court Receiver appointment and litigation counsel. Specializing in health and safety receiverships, nuisance abatement, code enforcement, municipal law, and enforcement of judgments. Personally involved in abating dangerous nuisance conditions on hundreds of properties throughout the State as well as overseeing the rehabilitation of hundreds more properties statewide.

BEST BEST & KRIEGER LLP — Ontario, California
Attorney — 2009–2013
Extensive experience with civil, criminal, state, and federal court litigation. Collaborated directly with clients to intake, manage, and prosecute cases. Extensively worked on litigation investigations, pleadings, discovery, law and motion, oral argument, settlement negotiations, bench trials, and jury trials. Practiced municipal, code enforcement, receivership, criminal, administrative, constitutional, business, real estate, and redistricting law.

UNITED STATES DISTRICT COURT — Riverside, California
Judicial Extern — Spring 2009
Drafted opinions, reports, and recommendations. Assisted in legal research, analysis, and decision making. Discussed legal principles and decision making factors with the judge. Observed trials, hearings, and settlement conferences. Ascertained the practical aspects of how to effectively advocate in court.

OSBORN & CARTER APC — Rancho Cucamonga, California
Law Clerk — 2008–2009
Composed motions, research papers, office memoranda, and legal correspondence. Reviewed files and records to identify and sequence events in preparation for pleadings and discovery. Observed depositions and client consultations. Worked on insurance, medical malpractice, legal malpractice, real estate, and administrative law cases.

WORK EXPERIENCE

SEARS—STORE & AUTO Moreno Valley, California
Store General Manager 2006–2007
Managed a $30 million annual revenue location with over 150 employees. Responsibilities included: profit and loss accountability, operations, customer relations, marketing, internal and external hiring, training, human resources, loss prevention, and investigations.

K. HOVNANIAN HOMES Inland Empire, California
Construction Manager 2006
Conducted planning, purchasing, land development, construction management, and vendor contract negotiations on nine communities encompassing single family homes, multi-unit dwellings, and retirement communities.

MILITARY EXPERIENCE

UNITED STATES ARMY Various Locations
Captain, Ranger, Combat Veteran 2002–2010
Served in multiple positions including: Fire Support Officer, Infantry Platoon Leader, Artillery Platoon Leader, Battery Executive Officer, and Classified War Plans Officer. Stationed in multiple locations around the world including: Iraq, Japan, Korea, Washington, Oklahoma, Georgia, and Florida. Commanded units of up to 82 men and was responsible for over $6 million worth of weapons, equipment, and armored vehicles. Fought in Iraq as part of Operation Iraqi Freedom and led over 150 combat patrols, raids, and civil-military operations without sustaining a single casualty to my unit. Ranger School graduate surviving an intense combat leadership course composed predominantly of field operations in forest, swamp, and mountainous terrain involving planning and executing attacks on widely dispersed objectives, training over 22 hours per day, sleeping less than two hours per night, and eating only the minimum food necessary to sustain function.

EDUCATION

UNIVERSITY OF LA VERNE, COLLEGE OF LAW (ULV) Ontario, California
Juris Doctorate, magna cum laude May 2010

Rank: Third in Class; Dean's List; Full Tuition Scholarship.
Awards: Best Appellate Brief; Best Appellate Oralist; CALI—Estate Planning, Contract Drafting, Civil Procedure, Evidence, Appellate Advocacy.
Clubs: Law Review; Peer Mentoring; Faculty Curriculum Committee; American Constitutional Society; Delta Theta Phi International Law Fraternity.

UNIVERSITY OF SOUTHERN CALIFORNIA (USC) Los Angeles, California
Bachelor of Science, Business Entrepreneurship May 2002

PUBLICATIONS & PRESENTATIONS
Representative Sampling

Health & Safety Code Receiverships, CACEO—CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Numerous Cities, California, 2013–Present.

Code Enforcement Receiverships, COCO—COUNTY COUNSELS' ASSOCIATION OF CALIFORNIA, Monterey, California, 2022.

Health & Safety Receiverships, ICC—INTERNATIONAL CODE COUNCIL EDUCODE CONFERENCE, Las Vegas, Nevada, 2022.

Post-Pandemic Nuisance Abatement, IMLA—INTERNATIONAL MUNICIPAL LAWYERS ASSOCIATION, Minneapolis, Minnesota, 2021.

Receiverships & Nuisance Abatement, COUNTY OF LAKE, Lakeport, California, 2018.

Nefarious Building Abatement—Drugs, Gangs, & Prostitution, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Cities, California, 2017–Present.

Health & Safety Receiverships, INLAND EMPIRE CRIME FREE COLLABORATIVE, Rancho Cucamonga, California, 2015.

Health & Safety Code Receiverships Panel, CALIFORNIA RECEIVERSHIP FORUM, Los Angeles, California, 2013.

Municipal Receiverships & Cost Recovery, CITY OF MURRIETA, Murrieta, California, 2015.

Substandard Buildings & Hoarders, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Anaheim, California, 2015.

Nuisance Abatement Enforcement Tools, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Cities, California, 2015–Present.

Public Entity Receiverships of Blighted and Foreclosed Properties, 35 PUB. L.J. 21, no. 4, Fall 2012 at 21.

Nuisance Abatement Legislative Update, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Cities, California, 2018–Present.

Legal Aspects of Code Enforcement—Certification Academy Courses Modules 1–3, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Numerous Cities, California, 2015–Present.

Cannabis Laws, Regulation, & Enforcement, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Locations & Webinars, 2014–Present.

Privacy Rights, Fourth Amendment, Search & Seizure, Inspection & Abatement Warrants, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Cities, California, 2016–Present.

Homeless Issues, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Cities, California, 2017–Present.

Sober Living & Groups Homes Enforcement, SANTIAGO CANYON COLLEGE, Orange, California, 2023.

Defending Lawsuits Against Code Enforcement, SANTIAGO COMMUNITY COLLEGE, Santa Ana, California, 2021.

Sober Living & Group Home Facilities, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Virtual Conference, 2020 & 2021.

Rent Control & The Tenant Protection Act of 2019, THE CALIFORNIA MUNICIPAL LAW HANDBOOK 2020, § 9.59.

Code Enforcement During a Pandemic, LEAGUE OF CALIFORNIA CITIES, Virtual Conference, 2020.

Code Enforcement During a Pandemic, WESTERN CITY, September 2020.

Pandemics: Code Enforcement's Role, SAN JOAQUIN VALLEY HOUSING COLLABORATIVE, Webinar for Public Agencies & Organizations throughout California, 2020.

Drugs, Gangs, & Human Trafficking, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Virtual Conference, 2020.

Sober Living & Group Home Facilities, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Virtual Conference, 2020.

Sidewalk Vending & Microenterprise Home Kitchens, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Virtual Conference, 2020.

Safe & Affordable Housing Via Code Enforcement, SAN JOAQUIN VALLEY HOUSING COLLABORATIVE CODE ENFORCEMENT SYMPOSIUM, Virtual Conference, 2020.

Nuisance Abatement, SILVER & WRIGHT LLP, Webinars for Public Agencies & Organizations throughout California, 2020.

Cannabis Enforcement, COUNTY COUNSEL ASSOCIATION OF CALIFORNIA, Santa Rosa, California, 2019.

Hot Topics in Code Enforcement, SAN JOAQUIN VALLEY HOUSING COLLABORATIVE CODE ENFORCEMENT SYMPOSIUM, Various Cities, California, 2019.

Keynote Speaker, SAN JOAQUIN VALLEY HOUSING COLLABORATIVE CODE ENFORCEMENT SYMPOSIUM, Madera, California, 2018.

SB 946 Sidewalk Vendors, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Bell, California, 2018.

Law Enforcement Evidence & Testimony, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Monterey Bay, California, 2018.

Code Enforcement Symposium Panelist, SAN JOAQUIN VALLEY HOUSING COLLABORATIVE, Stockton, California, 2017.

California Cannabis Law, Regulation, and Enforcement, CALIFORNIA BUILDING OFFICIALS, Newport, California, 2017.

Emerging Issues in Code Enforcement, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Claremont, California, 2017.

Criminal Prosecutions & Substandard Housing Enforcement, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Pasadena, Santa Rosa, Redding, & Fresno, California, 2017.

Vacation Rentals & Transient Housing, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Palm Springs, California, 2017.

Code Officer Liability, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Palm Springs, California, 2017.

Proposition 64—the Adult Use of Marijuana Act, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Cities, California, 2016–17.

Resources & Strategies to Fight Blight, CALIFORNIA STATE UNIVERSITY FRESNO, Visalia, California, 2016.

Marijuana Laws, Regulation, & Enforcement, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Rohnert Park, California, 2016.

Public Governance Ethics, CITY OF ADELANTO, Adelanto, California, 2016.

STEP, DAA, & RLAA Enforcement, DESERT ENFORCEMENT NETWORK, Palm Desert, California, 2016.

Marijuana Tax & Regulation Workshop, CITY OF ADELANTO, Adelanto, California, 2016.

Graffiti Vandalism: Legal Enforcement & Cost Recovery, ZERO GRAFFITI INTERNATIONAL, Santa Ana, California, 2015.

Warrants, Prosecution, & Cost Recovery, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Livermore, California, 2015.

Realignment & Code Enforcement: Tools To Survive, DESERT ENFORCEMENT NETWORK, Palm Desert, California, 2015.

Municipal Code Criminal Prosecution and Cost Recovery, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Salinas, California, 2014.

Crime-Free Housing, COUNTY OF SAN BERNARDINO, Various Cities, California, 2013–14.

Health & Safety Code Receiverships, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Fremont, California, 2013.

Regulating Sober Living Facilities, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Lake Tahoe, California, 2013.

Regulating Medical Marijuana Dispensaries, INSPECTION ENFORCEMENT TRAINING INSTITUTE, Various Cities throughout California, 2013.

Nuisance Abatement Cost Recovery, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Fremont, California, 2013.

Responding to Realignment Impacts, LEAGUE OF CALIFORNIA CITIES, Ontario, California, 2013.

New California Law Strengthens Municipal Powers To Fight Blight On Foreclosed Homes, THE PUBLIC RECORD, Sept. 18, 2012, at 15.

Redistricting Law for Water Agencies, ASSOCIATION OF CALIFORNIA WATER AGENCIES, Monterey, California, 2012.

Scott Talkov, *Barristers President's Message—Honoring Our Veterans: Army Ranger & Barrister Curtis Wright*, RIVERSIDE LAWYER, October 2011, at 6.

Obtaining Citizenship Through Military Service, RIVERSIDE LAWYER, October 2011, at 12.

Medical Marijuana Dispensaries, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Monterey, California, 2011.

Code Enforcement Criminal Prosecutions, CITY OF FONTANA, Fontana, California, 2011.

Metadata Mining and Scrubbing: Potential Ethical Pitfalls California Attorneys Need To Know, RIVERSIDE LAWYER, June 2010, at 25.

Quanta of Solace?: The Patent Exhaustion Doctrine and Method Patents After Quanta v. LGE, 30 U. LA VERNE L. REV. 494 (2009).

PROFESSIONAL ORGANIZATIONS, BAR ADMISSIONS, & AWARDS

Organizations: Leo A. Deegan Inn of Court (2009–10); Riverside County Bar Association (2009–20); Riverside Barristers Association (2009–13); California Association of Code Enforcement Officers, Instructor (2010–Present); United States Army Ranger Association, Southwest Region Deputy Director (2010–13); Veterans of Foreign Wars (2010–Present); American Legion (2010–Present); Inland Empire Federal Bar Association (2011–13); Stop Urban Blight & Zero Graffiti International, Board of Directors (2013–16); Inland Empire Hoarder Task Force, Legal Counsel (2013–16); Orange County Hoarder Task Force (2013); Los Angeles Hoarder Task Force (2013); San Diego Hoarder Task Force (2013); San Bernardino Crime-Free Housing Program, Legal Counsel (2013–14); Inland Empire Crime Free Collaborative, Legal Counsel (2013–16); American Association of Code Enforcement, Board of Directors (2015–16); University of Southern California Veterans Alumni Council (2017–18); Orange County Bar Association (2018–Present); Altair Landscape Committee (2020–Present); PTSA Board of Directors Parliamentarian (2021–Present).

Bar Admissions: State Bar of California (2010–Present); Supreme Court of California (2010–Present); United States Court of Appeals, Ninth Circuit (2010–Present); United States District Court for the Central, Southern, Northern, and Eastern Districts of California (2010–Present).

Awards: National Lawyer of Distinction (2020); ULV Law Graduation Keynote Speaker (2013); Ranger Tab (2003); Combat Action Badge (2003); Army Commendation Medal with Oak Leaf (2002–2006); National Defense Service Medal with Bronze Star (2004); Global War on Terrorism Expeditionary Medal and Service Medal (2003); Army Service Ribbon (2002); Overseas Service Ribbon (2003).