



Drinking Water System Needs Assessment

System Name/ID: Bailey Mutual Water Company / PWSID CA3700926

Date of Site Assessment: 03/18/2026



Completed by:



5207 Portsmouth Road
Bethesda, MD 20816

Disclaimer: This memorandum was prepared by Moonshot Missions for technical advisory purposes only and is based on available field observations, operator interviews, and data provided at the time of review. Findings and recommendations are intended to support regulatory compliance and operational improvement, but do not constitute final engineering design, stamped construction documents, or certification of system condition. Implementation of any recommendation should be completed by qualified, licensed professionals in accordance with applicable local, state, and federal regulations.

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SYSTEM DESCRIPTION

System Name & ID: Bailey Mutual Water Company (CA3700926)

Address: Palomar Mountain, CA 92060, San Diego County

Population: An occupancy survey conducted with Moonshot support for 36 active connections identified 24 people served for more than 6 months, 12 people served for more than 2 months (60 days total), and 110 people served for less than 2 months; 6 service addresses reported no occupancy.

Service Connections: The most up-to-date count is the occupancy survey, completed with Moonshot support, which identified 36 active connections. This survey should be treated as the current working basis for population and occupancy discussions in this report.

System Ownership & Governance

Bailey Mutual Water Company (BMWCo.) is a small mutual water system serving a residential area on Palomar Mountain in San Diego County. The company operates on a non-profit basis to supply water to shareholders within its service area and is governed by a five-member board. Current officers reported in 2024–2025 include Laura Lorenzen (President), Robert Lopez (Vice President), Henry Castillo (Operations Manager), Shane Kochon (Treasurer), and Laurie Gerber (Secretary). Governance is volunteer-led, with limited administrative capacity, though bylaws authorize the board to appoint additional operational or assistant support roles as needed. The most current occupancy data is from the survey completed with Moonshot support, which documented 36 active connections and the current residency pattern described in this report. The system is transitioning into a more formal public water system compliance framework while still relying heavily on volunteer labor and shareholder participation.

Utility Representatives

Laurie Gerber

Board Secretary

secretary@bmwco.org

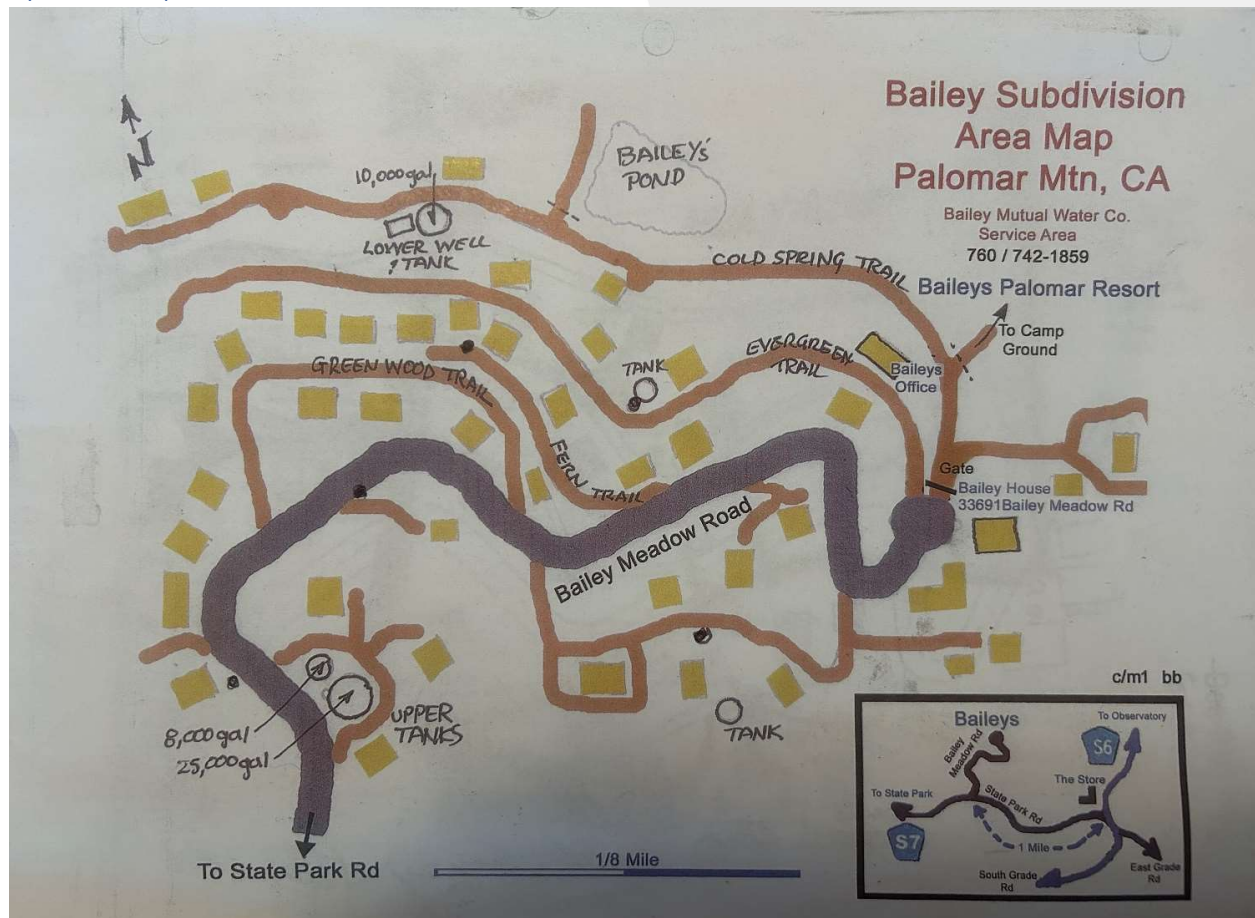
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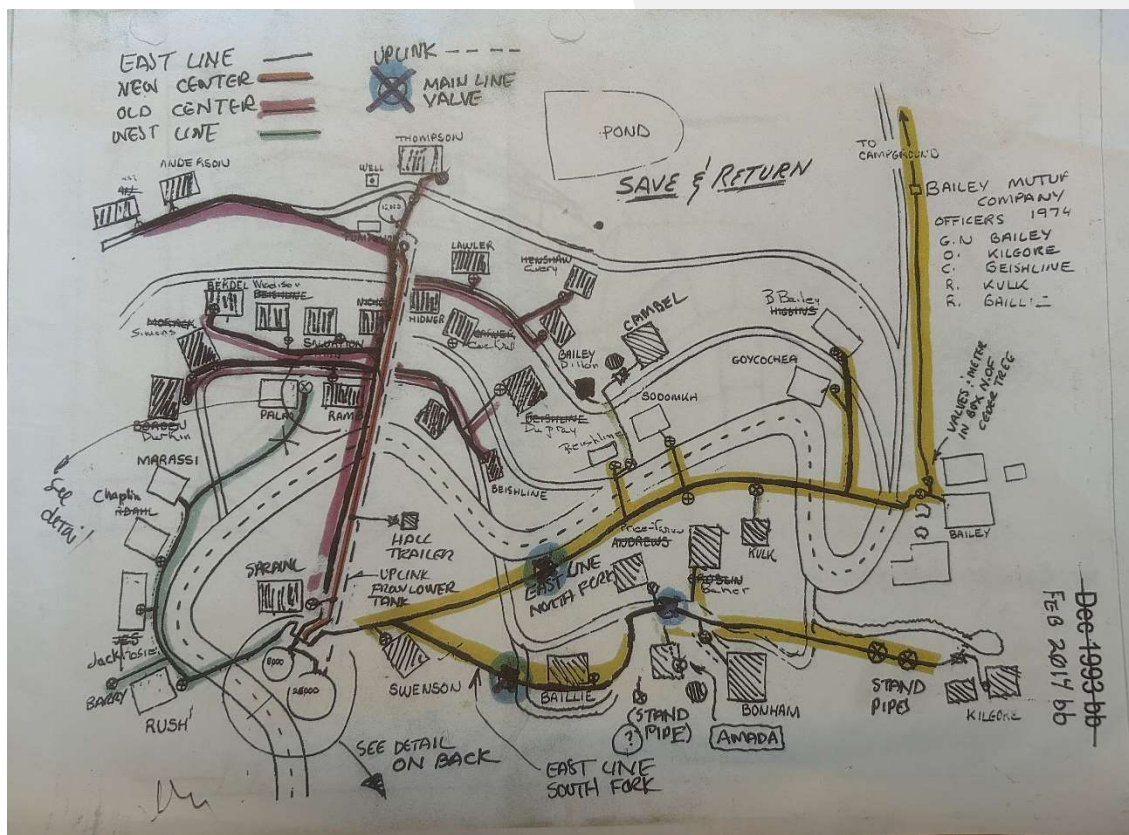
Water's Primary Use (domestic, irrigation, etc.)

Primary use is domestic potable water service for residential customers. Fire suppression storage is present but only partially operational and historic/ongoing discussion continues regarding service relationships with the adjacent resort.



System Maps





System Components

Component	Description	Notes
Source Water	Active groundwater well / wellhead	Primary source area within residential/recharge setting on Palomar Mountain
Water Storage	Steel storage tank with liner (~25,000 gal)	Main storage near existing tank cluster
	Older upper storage tank(s), including leaking concrete/redwood-coated tank (~8,000 gal)	Upper hill tank area
	Fire storage tanks	Fire Tank #3 active near Laurie's property, Fire Tanks #1 and #2 inactive
	Transfer tank (10,000 gal), gunite coated redwood	
Water Mains	Distribution lines (~5,000 ft), galvanized and PVC	Systemwide

DRINKING WATER SYSTEM

Source Water

Quantity

The system relies on groundwater as its primary source. The well is currently not metered, lacks a sounding port, and there is no current method to verify sustained well capacity, static water level, or drawdown. Source reliability and long-term adequacy are active concerns, particularly under drought conditions, future demand, and potential interconnection scenarios. Community concerns have been heightened by nearby water shortage issues in the area. The adjacent resort has developed additional wells, but those sources have not gone through formal drinking water approval and therefore cannot currently be relied on as permitted potable backup supply. Existing system planning documents list master meters on the line segments. Each individual service connection will need metering by 2031.

Pump ID	Make	Size (hp)	Depth (below ground surface)	Controls
Well Pump	Grundfos 16S15-4	5HP 20 GPM	Suction intake at 320ft	Controllers and timers located in pump shed
Transfer Pump (located in 10k gal transfer tank)	Grundfos	1HP 10 GPM	N/A	

Quality

Water quality concerns are associated primarily with aging galvanized distribution piping and potential tank-related impacts. Poor water quality, including red tinting, has been observed in lower portions of the system.

Following a recent positive bacteriological sample, operators disinfected and mixed tanks to determine whether water quality issues originated in storage or the distribution system.

BMWCo. has begun implementing a quarterly disinfection and flushing plan to improve water quality at tanks and throughout the distribution system.

Aquifer/Well Head Protection

The source is in a fractured granite aquifer and within an approximately 900-foot protection zone in a groundwater recharge area. Rusting was observed on the well manhole cover, appurtenances, and top of the casing, although no direct failure points or obvious bacterial entry points were observed at the time of the visit. Nearby residential storage of vehicles, batteries, and automotive fluids, as well as traffic near the well, represent potential contaminant risks that should be addressed through source water/wellhead protection planning.



Treatment

Chemical Feed Systems

Disinfection Methods

The system has one active groundwater source (Well 03) and no conventional treatment plant. No permanent continuous chemical feed system was documented in the materials reviewed. In 2024, the system revised its sampling plan from quarterly upper-tank sampling to quarterly rotating samples at four service connection locations, as required by regulators. Following two June 2024 total-coliform-positive samples (not *E. coli*), the system completed a system-wide chlorine disinfection on July 15–19, 2024 under its certified operator, Ed Stone of Choice Water Solutions, and then shifted to monthly sampling. Monthly results reported from July through December 2024 were absent for total coliform and *E. coli*. The system has not reported continuous chlorination since the July 2024 disinfection event.

Finished Water Storage

Components

Storage Tank	Material	Installation Date	Capacity (gallons)	Use
Main Steel Tank	Steel with liner	1935 orig.; acquired 1977; liner added 2019	~25,000	Primary active finished water storage
Upper Tank / older coated tank	Older redwood/gunite-coated steel or concrete tank	Likely 1952 or 1977-era asset	~8,000	Not reliable; likely replacement/removal candidate
Lower Storage Tank	Concrete or gunite-coated redwood	Installation date is assumed to be in the 1950s	~10,000	In use
Fire Storage Tank (Ivy Trail)	Plastic	1997	~3,000	In use
Fire Storage Tanks (2) (Evergreen Trail)	Plastic	1990s	~5,000	Both tanks are Inactive / empty
Total Storage Volume			~51,000 gallons	

Pressure

Storage limitations and incomplete integration of newer piping may affect pressure stability. Staff noted that some rerouting options could reduce available storage or pressure if not fully integrated. Fire flow conditions may also create backflow concerns under certain operating scenarios. Further investigation of system pressure conditions should be considered as part of a preliminary engineering report.



Distribution System

Components

The distribution system is primarily older galvanized piping, with a mainline of approximately 2 inches reducing to 3/4 inch in some locations. Corrosion is evident, and several lines are at or nearing the end of useful life. New PVC lines have been installed in some areas but are not yet fully connected. The existing network is largely branched with dead ends; future re-piping may incorporate loops where practical.

Operations & Maintenance

Operations and maintenance are heavily dependent on volunteer support and manual system operation. Beginning in October 2024, the company instituted monthly work parties that have supported valve exercising, water distribution volume monitoring, upgrade planning, equipment organization, contaminant-prevention tasks, and vegetation/fire-risk reduction on company property. Despite hiring a certified drinking water operator for sampling and periodic disinfection, day-to-day monitoring, project planning, and administrative follow-through remain largely with volunteers. Current routine operations are effectively centered on one person keeping tanks full, a small volunteer group responding to leaks and monthly work activities, and limited board capacity focused on permitting and planning. Asset inventory, condition assessment, preventive maintenance, and a phased capital replacement strategy are needed to reduce break risk, maintenance burden, and service disruption.

Pumps

Transfer pump replacement is identified as a near-term project priority. The current system also relies on manual timer-based operation, which creates operational vulnerability and limited redundancy. A more robust pump/controls configuration and potential automation improvements should be evaluated to reduce dependence on a single individual for routine operation.

Monitoring & Reporting

The system is completing Technical, Managerial, and Financial (TMF) capacity-related work as part of its transition to State public water system oversight. County regulators required a revised sampling plan in January 2024 using four rotating service-connection sample sites, and the system moved to monthly sampling after the June 2024 coliform event. According to the permit status tracker document (provided by BMWCo.), the initial State permit application was submitted on 8/18/2025 as a Transient Non-Community system. Certain application components were accepted in 2025, including well location/design/construction information (8/20/2025), the Water Quality Emergency Notification Plan (9/18/2025), and the well completion report (9/24/2025). Other components remained pending or required revision, including the Drinking Water Source Water Assessment, revised system data sheets, a revised Bacterial Sample Siting Plan, a Cross Connection Control Plan, CEQA/NEPA documentation, TMF materials, and source monitoring for regulated contaminants. Moonshot helped Bailey conduct the most current occupancy survey, which documented 36 active connections and identified 24



people served more than 6 months, supporting the current classification discussion and indicating the system remains near, but below, the 25-person threshold discussed for year-round occupancy.

Cross-Connections

Cross-connection issues are a key compliance item. The system is addressing an existing cross-connection concern with the adjacent resort, and permit-tracking notes indicate that earlier regulator direction focused on backflow prevention while later direction called for a full air-gap disconnection between systems, pending further State review. Potential future arrangements with the resort may include interconnection, emergency backup, or a consecutive system structure, but these options require regulatory review and clear operational controls. The permit application also requires adoption of a formal Cross Connection Control Plan and assignment of a Cross Connection Control Coordinator; additional backflow protection may be needed for the two cabins with fire-water tanks.

REGULATORY

Drinking Water Regulatory Oversight

Bailey Mutual Water Company (BMWCo) is regulated by the California State Water Resources Control Board (SWRCB), Division of Drinking Water, San Diego Regional Office. Oversight transitioned from the San Diego County Department of Environmental Health to the State in 2024. Primary regulatory contacts identified in permit correspondence include Leticia Padilla, Water Resources Control Engineer, and Joseph Guzman, Supervisor, with the San Diego SWRCB office. BMWCo is currently operating under State oversight while completing requirements for issuance of a formal drinking water permit.

Most Recent Sanitary Survey

BMWCo has undergone multiple sanitary surveys under County and State oversight, with the most recent surveys and inspections conducted in 2024 during the transition to State regulation. These inspections identified several deficiencies, including inadequately sealed storage tanks, a leaking or compromised gunite tank, a poorly designed overflow on the 25,000-gallon steel tank, and unresolved cross-connection concerns involving the adjacent resort. Earlier sanitary surveys (1999 and 2009) similarly cited outdated emergency notification plans, missing water quality documentation, and infrastructure deficiencies, providing important historical context for current compliance priorities.

Permitting

BMWCo is actively working on completing their State drinking water permit application, as a Transient Non-Community Water System (TNCWS), consistent with direction from State regulators and supported by the most recent occupancy survey conducted with Moonshot assistance. Several application components have been accepted by the State, including well location/design/construction information, the well completion report, and the Water Quality



Emergency Notification Plan. Other required components remain pending or under revision, including the Drinking Water Source Assessment (DWSAP), revised system data sheets, revised Bacterial Sample Siting Plan, Cross Connection Control Plan, Environmental Intake Form (CEQA compliance), Technical Managerial and Financial (TMF) assessment materials, and source monitoring for regulated contaminants. The State has indicated that a permit may be issued upon approval of plans to address cited deficiencies, even if construction is not yet complete.

Water Quality Data

BMWCo conducts routine drinking water monitoring in accordance with State and federal requirements. In January 2024, regulators required a revised sampling plan using four rotating service-connection sampling locations. In June 2024, two total-coliform-positive samples (non-E. coli) were detected, triggering a system-wide chlorine disinfection conducted July 15–19, 2024 by a certified operator. Since that event, BMWCo has conducted monthly coliform sampling, with results reported as absent for total coliform and E. coli through the end of 2024. In March 2026, a total-coliform-positive sample (non-E. coli) was detected, triggering another system-wide chlorine disinfection, conducted March 18, 2026. Following the March 2026 positive sample, BMWCo completed a Level 1 Assessment and has adopted a quarterly disinfection and flushing schedule to help improve water quality. BMWCo does not currently practice continuous chlorination. Additional source water monitoring for regulated inorganic contaminants remains a permit requirement and is pending completion.

Open Enforcement Actions

BMWCo does not have formal enforcement orders currently in effect; however, the State has identified open compliance items that must be resolved prior to or concurrent with permit issuance. These include replacement of the 8,000-gallon and 10,000-gallon storage tanks, redesign or replacement of the steel tank overflow, and remediation of cross-connections associated with the adjacent resort and on-site fire water tanks. These items are being tracked through the permit application process rather than through separate enforcement actions.

Compliance Actions

BMWCo is actively addressing State-identified compliance items through a combination of operational fixes, planning, and permitting. Completed actions include adoption of a revised sampling plan, correction of minor tank vent deficiencies, and engagement of a certified drinking water operator. Planned compliance actions include preparation of permitted engineering plans for cited storage and overflow deficiencies, adoption of a formal Cross Connection Control Plan with assignment of a coordinator, completion of outstanding permit application components, and implementation of prioritized capital improvements identified in the Capital Improvement Plan. Compliance activities are being sequenced to align with permit issuance, TMF requirements, and available technical and financial capacity.



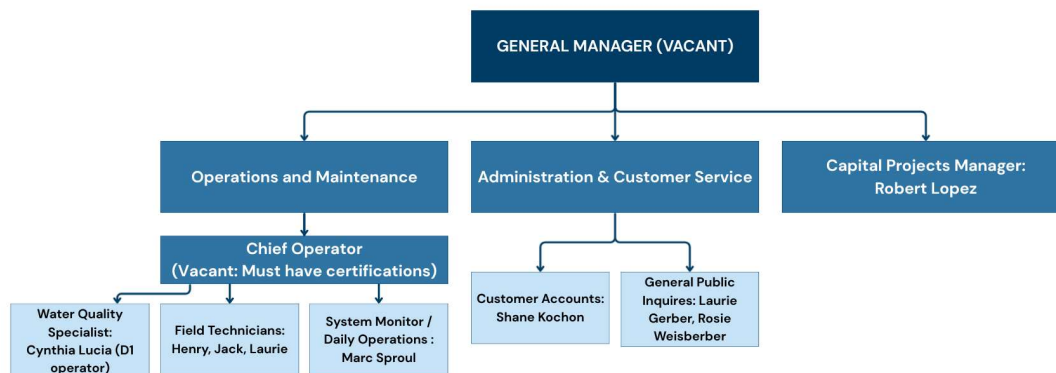
MANAGEMENT

Ownership and Governance

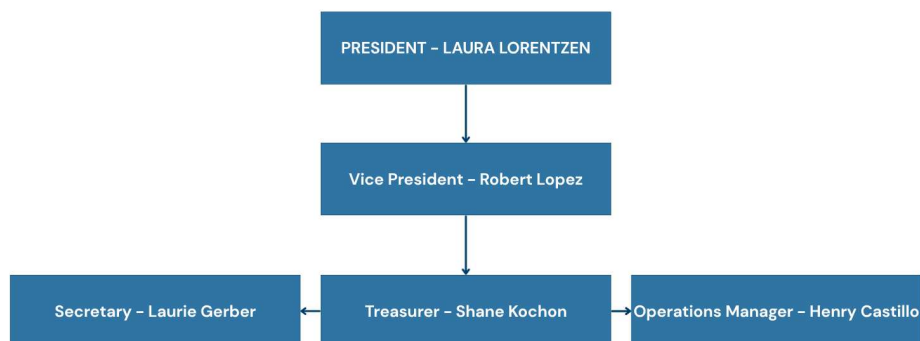
The system is governed by a five-member volunteer board of shareholder-directors elected annually. The bylaws establish officer roles including President, Vice-President, Secretary, Treasurer, and Member-at-Large, and also allow appointment of an Operations Manager and executive assistants to support board functions. Leadership is actively coordinating with technical assistance providers, regulators, engineers, and neighboring systems to define a compliant path forward. Shared services with Palomar Mountain Mutual and/or other partnership models are under evaluation to strengthen managerial capacity. A central management challenge is defining what "maintenance mode" should look like under State standards, including the real labor hours, technical skills, and volunteer or contracted roles required for routine operations, compliance, inspections, reporting, and emergency response.

Organization Chart

Bailey Mutual Water Company Organization Chart



Bailey Mutual Water Company Board



Connections

Current system/customer data should be grounded in the occupancy survey completed with Moonshot support, which identified 36 active connections and documented residency duration for classification discussions with regulators. Survey results showed 24 people at 9 service addresses for more than 6 months, 12 people at 8 service addresses for more than 2 months, 110 people at 16 service addresses for less than 2 months, and 6 service addresses reporting no occupancy. The system serves residential users and has an ongoing historic service relationship with the adjacent resort. Potential future configurations under discussion include standalone public water system conversion, administrative shared services, consolidation with Palomar Mountain Mutual, resort integration, or a consecutive water system arrangement.

Policies and Procedures

The company has formal bylaws and board authorities covering shareholder meetings, annual reporting, charges and assessments, delinquent-account enforcement, lien authority, hardship arrangements, and water-use rules. Current policy tools include late fees for delinquent accounts, board-approved hardship payment plans, authority to record liens, and enforcement against water waste or unauthorized service conditions. The system would still benefit from more formalized operating procedures for emergency response, procurement, regulatory communications, and implementation of source protection and cross-connection control requirements.



Records

In addition to technical records, the bylaws require maintenance of shareholder, stock, land-appurtenance, and corporate records, with annual reporting to shareholders after the close of the fiscal year. BMWCo maintains extensive historic operational and asset records dating back to the 1950s, primarily in paper binder format compiled by prior system operators. These materials provide valuable institutional knowledge and asset history, but system mapping, asset records, regulatory records, and customer/service connection information remain fragmented, non-standardized, and not organized to meet current State public water system documentation, asset management, and compliance tracking expectations. While the utility has partial mapping resources (paper-based and incomplete GIS maps), it would benefit from a more complete GIS-based asset inventory and centralized recordkeeping system to support engineering, asset management, compliance, and funding applications.

Record Type	Date(s)	Description / Contents	Status / Notes
Operations Forms & Manuals	Various	Blank water pumping and usage logs; Grundfos pump manuals (model & serial numbers); Intermatic timer dial diagrams and scheduling instructions; 2016 Flexi-Liner proposal and literature	Historic operator reference materials; not standardized or digitized
Regulatory Correspondence – Small Water Systems	1990	Correspondence and summaries related to California State Bill 2158 addressing transfer of oversight of small water systems from County to State	Historic regulatory context
Certified Operator Requirements	2001	San Diego County letter requiring engagement of a certified water system operator for Cal Tech / Palomar Observatory system	Regulatory precedent
Board & Personnel Records	Various	Lists of board members, personnel, and time sheets	Incomplete continuity; not maintained as a formal personnel file
County Inspections & Sanitary Surveys	1999–2009	1999 and 2009 Sanitary Survey Reports; follow-up correspondence citing missing water quality tests, outdated emergency notification plans, and permit documentation	Key compliance history; several items later addressed
Water Quality & Compliance Records	1992–2020	Coliform rule documentation; laboratory water test results; inorganic chemical testing correspondence	Fragmented; not organized into a



			modern compliance record set
Distribution Manifold Documentation	2005	Photos, drawings, parts lists, and construction notes for new 4-way distribution manifold	Useful for asset history; not in GIS format
Emergency Power – Generator	2009	Generator purchase receipts; shed plans; photos; materials lists and cost estimates	Asset documentation present
Well #1 Records	1952	San Diego Department of Public Health drawings for drilled well with ejector pump	Historic; well no longer active
Well #2 Records	1963–1966	Loan documents; drilling proposals; water analysis; correspondence; well logs; pump installation narratives; shareholder assessments	Historic; destruction documented later
Gunitite Storage Tanks	1977	Gunitite tank specifications and signed construction contract	Relevant to current cited deficiencies
Tank Roof Replacement	1986	Drawings, materials lists, and purchase receipts	Partial asset documentation
Well #3 Records	1975–1988	Well drilling invoices; pump replacements (1975, 1978, 1986, 1988); service proposals; annotated invoices	Primary active source history
Well Destruction & Replacement (Fain)	2002	Destruction of prior well; drilling logs for new well; soil and rock layers; invoices; Grundfos pump manuals	Critical compliance documentation
Center Line Upgrade	2000–2004	Board memos; contractor proposals; drawings; material specifications for center line replacement	Precursor to current “New Center Line”
Loose System Repair Records	2013–2019	Leak response documentation; trench photos; repair emails; winterization notes; hand-drawn maps	Informal, non-standardized
System Maps	1974–2002	County assessor maps; hand-drawn system maps from multiple eras	Not GIS-based; limited spatial accuracy
Back Pocket – Hand Drawings	Various	Hand-drawn sketches of pipelines, tanks, standpipes, and cabin connections	Informal reference only



Planning Needs

Priority planning items include a Preliminary Engineering Report (PER), a regionalization alternatives analysis, capital improvement planning, source water protection planning, rate study support, and evaluation of shared services/consolidation options. Active project tracks identified through Moonshot support include regulatory coordination and TMF assessment, occupancy/classification review, resort regionalization/consolidation guidance, administrative consolidation guidance with Palomar Mountain Mutual, engineering/RFP development, a needs assessment, funding options strategy, and operations/maintenance planning.

Board-prioritized support needs also include development of TMF policies and procedures, training program elements, clearer understanding of staffing and volunteer roles needed for compliant operations, a long-term financial/rate structure plan, and facilitation of discussions with the Resort and Palomar Mountain Mutual.

Compliance Status

The system is in a transitional compliance phase and has not yet completed conversion to a permitted State public water system. Permit-tracking materials show that the initial State application was submitted in August 2025, with some submittals accepted but several key items still pending or under revision. State-identified items include tank/storage deficiencies, overflow-related issues, and cross-connection concerns. Additional compliance gaps include incomplete insurance coverage, unresolved operator liability questions, and incomplete permit application components such as Source Water Assessment, Environmental Intake Form (California Environmental Quality Act compliance), TMF documentation, source monitoring, revised data sheets, and a Cross Connection Control Plan. California Environmental Quality Act (CEQA) review is anticipated for at least some capital projects, and project sequencing should be aligned with regulatory approval to avoid rework. Primary regulatory contacts identified in the permit materials are Leticia Padilla and Joseph Guzman with the San Diego office of the California State Water Resources Control Board. Moonshot is supporting the completion of required permit application documents.

FINANCE

Budget

For July 2024 through June 2025, the company reported approximately \$23,075 in service-fee income, total expenses of approximately \$14,718, and net income of approximately \$8,377. Reported cash at the end of the period was \$70,416.72. Major expense categories included repairs and maintenance, taxes, utilities, accounting, insurance, and contract labor. Separately,



the 2025 capital planning spreadsheet identifies an annual reserve contribution on the order of approximately \$14,000 to \$15,000 when existing and new project capital needs are combined, underscoring that current operating revenue alone is not sufficient to fully support long-term asset replacement and planned improvements.

For July 1 2025 through May 14 2026, the Company reported approximately \$43,577 in service-fee income, total expenses of \$17,024, and a net income of approximately \$26,934. Reported cash at the end of the period was \$97,350.58. Major expense categories were similar to previous year including repairs and maintenance, taxes, insurance, accounting services, contract labor, and electricity.

Rates and Affordability

At the time of this assessment, the current published shareholder charges include a \$300 annual water service charge and a \$300 annual assessment, for a typical total of \$600 per share per year, plus a \$250 transfer/processing fee for new shareholder escrow transactions. The company uses these charges and annual per-share assessments to support operations and infrastructure improvements. The bylaws establish delinquent-account penalties, reinstatement fees, and a board-approved hardship program with installment options and waived late fees for qualifying shareholders. While current rates are relatively modest, the documented capital needs suggest future increases or supplemental funding will be necessary if the system remains standalone and implements required upgrades. A formal rate study is still advisable to align rates with projected capital, reserve, and operating needs.

Debt

No outstanding debt was identified in the financial materials reviewed. The bylaws authorize the board to borrow money, incur indebtedness, and secure obligations with company property if needed. Future financing may include grants, low-interest loans, assessments, or other structured funding depending on ownership status, nonprofit eligibility, classification, and project scope. The utility is also evaluating whether transition to a nonprofit structure, including possible 501(c)(12) status, would improve funding eligibility.

Financial Controls

The treasurer and volunteer leadership are actively managing near-term financial decisions, and the bylaws require proper accounts, annual reporting, and withdrawal of company funds by checks signed by at least two persons. The board may also require fidelity bonds for officers or employees. Even with these controls, the system would benefit from stronger formal procurement procedures, improved documentation of reserve planning and capital budgeting, and comprehensive risk management/insurance coverage as operational complexity increases.



Capital Improvement Plan

The 2025 simplified Capital Improvement Plan identifies approximately \$176,334 in existing asset replacement value and approximately \$104,845 in planned new project costs, for a combined capital planning total of about \$281,179. Annual reserve needs are shown at roughly \$14,000 to \$15,000 depending on the planning version used. Near-term capital priorities include design upgrades for flushing ports and isolation valves, replacement of the 8,000-gallon storage tank, redesign/replacement of the steel tank overflow, bypass or reconfiguration of the 10,000-gallon transfer tank, replacement of hillside and east-line lateral delivery lines, tank fill automation, and backflow prevention at identified fire-suppression connections. Permit-tracking materials also identify integration of the newer uplink/downlink piping, replacement of the West Line meter, and repiping priorities on Greenwood, Fern, Evergreen, and Anderson/Thompson laterals. Planning notes also identify future service-connection metering by 2031 and a recurring tank inspection/cleaning maintenance program.



ASSESSMENT SUMMARY

OBSERVATIONS

DRINKING WATER SYSTEM:

The system operates with one active groundwater well, no conventional treatment plant, aging infrastructure, limited redundancy, and elevated regulatory risk as it transitions under State public water system oversight. Key issues include uncertain source capacity, limited aquifer monitoring capability, deteriorated storage assets, aging galvanized distribution piping, water quality concerns, cross-connection/backflow risk, incomplete permit components, and continued dependence on manual and volunteer-led operations.

California Department of Environmental Health (DEH) listed 5 deficiencies in a June 2024 that still need to be addressed by the system: 1. Transfer tank not properly sealed, 2. Concrete tank leaking, 3. No physical inspections of water system or inspections for possible cross-connections occur, 4. Status of RP located at Bailey's Resort connection is unknown, and 5. Improperly designed overflow at steel tank.

WASTEWATER SYSTEM:

Not applicable to this assessment.

MANAGEMENT: Governance and corporate controls are established through updated bylaws, but implementation capacity remains constrained by limited volunteer time, small-system staffing realities, and the need to formalize roles, procedures, and workload expectations for compliant long-term operations. Several tasks and roles have been found to be unfilled and empty. These items may require volunteer time, hiring out / contracting, or the addition of a part time employee. A list of unfilled tasks and roles can be found in *Appendix Section D*.

FINANCE: The company maintains positive operating results and approximately \$70,000 in cash, but current published charges of \$300 annual service plus \$300 annual assessment per share are modest relative to the documented capital improvement plan of roughly \$281,000 and annual reserve needs in the range of \$14,000 to \$15,000.



RECOMMENDATIONS

BMWCo should focus first on the actions needed to obtain and maintain its State drinking water permit, then use that compliance foundation to plan capital improvements, funding, and future partnership options.

1. Complete State permitting and compliance requirements

- Finish all outstanding State permit application items.
- Complete TMF documentation and required source water monitoring.
- Resolve State-cited deficiencies, including:
 - Replace or address the 8,000-gallon storage tank.
 - Replace or address the 10,000-gallon transfer/storage tank.
 - Redesign or replace the 25,000-gallon steel tank overflow.
 - Resolve cross-connection concerns with the adjacent resort.
- Adopt and implement a formal Cross Connection Control Plan.

2. Prepare a Preliminary Engineering Report

- Evaluate storage capacity, tank condition, and operational reliability.
- Assess aging galvanized distribution lines and where newer PVC piping should be connected.
- Identify flushing, isolation valve, looping, automation, and control improvements.
- Include permitting needs, CEQA/NEPA considerations, cost estimates, and project sequencing.
- Use the PER to support permit approval, funding applications, capital planning, and rate-setting.

3. Strengthen operations and management

- Define routine operating responsibilities for board members, volunteers, operators, and contractors.
- Formalize key procedures for emergency response, procurement, regulatory communication, inspections, maintenance, and compliance tracking.
- Use monthly work parties to complete documented priority tasks.
- Identify tasks that require contracted support or a part-time role rather than volunteer labor.

4. Modernize records and asset tracking

- Digitize and organize historic records, maps, inspection notes, repairs, and regulatory documents.
- Create a centralized electronic record system.
- Develop a GIS-based asset inventory linked to maintenance history and capital planning.
- Use improved records to support compliance, funding applications, engineering, and board decision-making.



5. Develop a long-term funding strategy

- Complete a formal rate study before voting on long-term rate increases.
- Incorporate the CIP reserve target into the annual budget.
- Address insurance and liability gaps.
- Preserve cash for priority compliance and capital needs.
- Pursue grants, loans, and other external funding to reduce pressure on shareholders.

6. Evaluate regionalization and consolidation options after permit progress

- After making progress toward State permit issuance, evaluate long-term options with Bailey Mountain Resort and Palomar Mountain Mutual.
- Consider shared services, emergency backup supply, consecutive system arrangements, administrative consolidation, or full consolidation.
- Compare costs, governance impacts, infrastructure compatibility, liability, rate effects, and regulatory requirements before making decisions.

Priority sequence

1. Finish State permit requirements and resolve cited deficiencies.
2. Complete the PER and use it to guide capital projects.
3. Strengthen operations, staffing, and records.
4. Complete the rate study and funding strategy.
5. Evaluate regionalization or consolidation from a stronger compliance position.



APPENDIX

A. Pictures

POTABLE SYSTEM



Description: Well pump and lower concrete storage tank.

Storage tank capacity: 10,000 gal

Storage tank is assumed to have been originally constructed in the 1950s. Material is either concrete or gunite coated redwood.

Observations:

The well pump enclosure could benefit from regular inspection and cleaning. The wellhead assembly appears to be in fair condition. There have been modifications to the storage tanks since it's initial construction.

Storage tank has had improvements over time to keep in service, however, longevity and security of the tank is uncertain.



Description: Upper storage reservoir tanks.

Redwood tank (left)- installed in 1977. Steel coating inside of tank. Capacity: 8,000 gal. Not in operation.

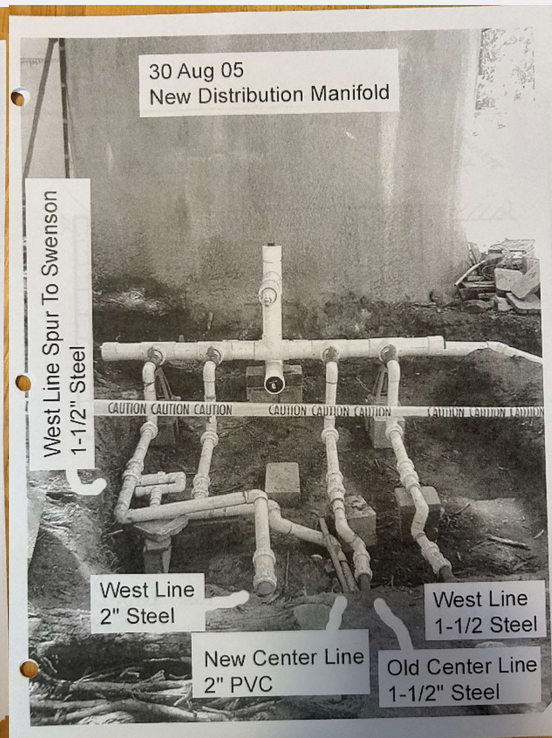
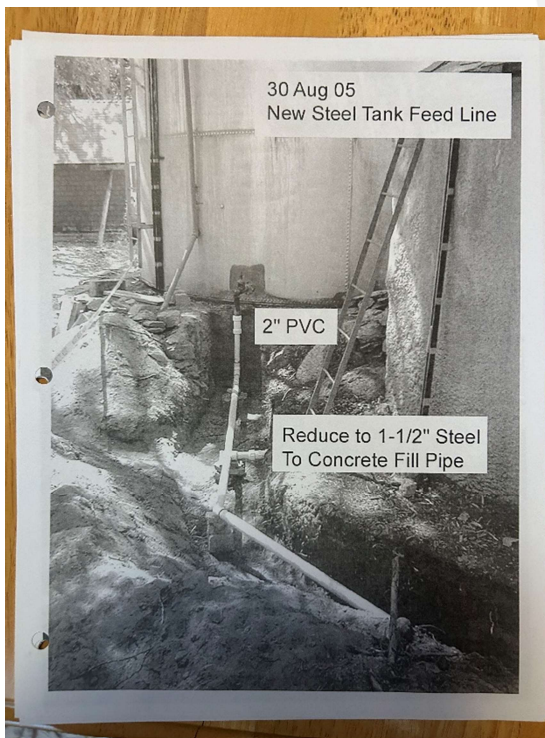
Steel Tank: Age: 1935. Installed: 1977. Flex liner added in 2019. Capacity: 25,000 gal. In operation.

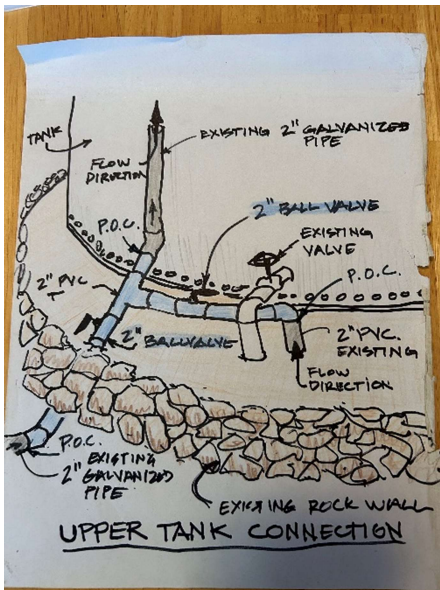
Observations: Redwood tank likely requires replacement and is not being used for storage.

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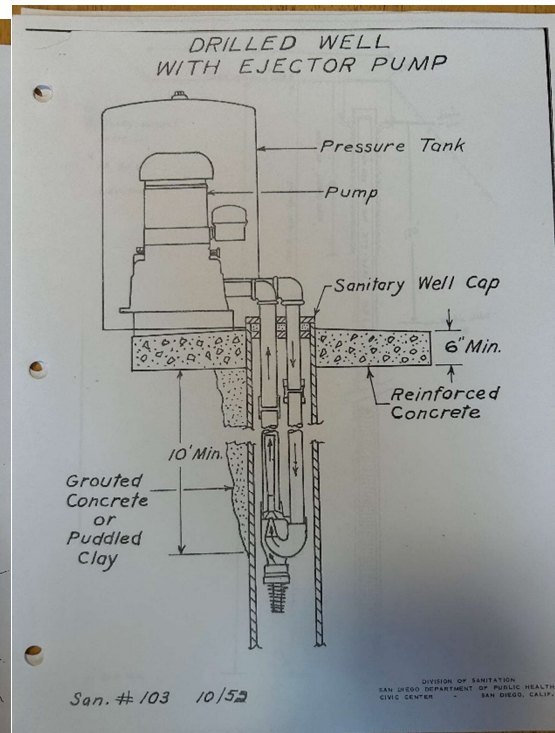
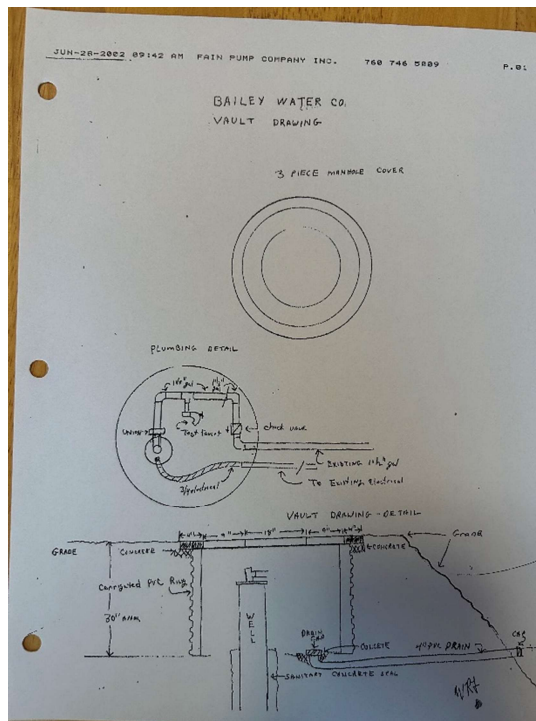
	Description: Upper fire storage tank. Capacity: 3,000 gal. Observations: Tank is in use and on private property of BMWCo board member. Tank is in good condition and is in use. Backflow preventer needed. -
	Description: Lower fire storage tanks. 2 identical tanks. Capacity: approximately 5,000 gal each. Tanks are empty and not in use. Valves are closed off to distribution system. Managed by homeowners of property they are installed on. Observations: Tanks appear to be in fair condition. Unknown history of inspections or repairs.

B. Construction Drawings
 1. Upper Storage Tanks





2. Well



C. Unfilled Tasks and Roles

Financial Management - Assistant
Operations system monitoring and maintenance
Shareholder Communications
Capital Improvement Project Management
Operations Trainings
Documentation of Repairs
Funding Research and Applications
General Manager Role
Emergency Planning – Emergency response recovery plans
Cross Connection Control – Program setup and permitting
Water Conservation Plan
System Security Plan – Protection from vandalism and contamination
Flow Meter Installation Planning for Service Connections
Tank Inspection and Cleaning Plan
Training Plan for Board, Operators, and Volunteers / Staff



*This technical memorandum was prepared by Moonshot Missions as a member of the Environmental Finance Center Network. The **Environmental Finance Center Network (EFCN)** is a university- and non-profit-based organization creating innovative solutions to the difficult how-to-pay issues of environmental protection and water infrastructure.*

The EFCN works collectively and as individual centers to address these issues across the entire U.S, including the 5 territories and the Navajo Nation. The EFCN aims to assist public and private sectors through training, direct professional assistance, production of durable resources, and innovative policy ideas.

