



EXECUTIVE OFFICER’S REPORT
August 1, 2021 – August 31, 2021

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State and Regional

1. Personnel Report – Sandra Lopez

New Hires – None

Transfers

- Tiffany Racz, Water Resource Control Engineer transferring from Forestry/Dredge & Fill Unit, South Lake Tahoe, to Regulatory and Enforcement Unit, South Lake Tahoe. The position will provide support for Wastewater and NPDES permitting work.

Vacancies

- Environmental Program Manager I (Supervisor), Compliance and Planning Division, South Lake Tahoe. The incumbent manages the Division consisting of the following technical programs: Basin Planning & Assessment, Surface Water Ambient Monitoring Program, Non-Point Source, Forestry/Dredge & Fill, Lake Tahoe Total Maximum Daily Load (TMDL), and Regional Monitoring/Climate Change coordination.

- Water Resource Control Engineer, Planning and Assessment Unit, South Lake Tahoe. This position will be responsible for conducting investigations to determine the cause of water quality impairments and developing implementation plans to address these impairments. The position will also work on Basin Plan amendments.
- Environmental Scientist, Non-Point Source Unit, South Lake Tahoe. The position involves case-handling and permitting associated with private and federal grazing allotments, golf courses, and restoration projects. Additionally, the position will involve Non-Point Source Program Management, CWA 319 Grant Selection and Management, and tribal coordination.
- Environmental Scientist, Non-Point Source Unit, South Lake Tahoe. This position will coordinate closely with interagency partners and the Tahoe Science Advisory Council to assess Lake Tahoe nearshore conditions and other factors influencing Lake Tahoe water quality and clarity, and aquatic invasive species. The incumbent will also help identify outstanding information needs for future work and coordinate applicable implementation actions, including those associated with implementation of the Lake Tahoe TMDL.
- Water Resource Control Engineer, Forestry Unit, South Lake Tahoe. This position will be focused on implementing the Water Board's elements of recent legislation (SB 901) related to increasing the pace and scale of forest fuels treatments and reviewing and enrolling projects under the appropriate Water Board dredge and fill permits.

Departures – None

North Lahontan Region

2. Standing Item: Status of Triennial Review Projects – *Daniel Sussman*

The Water Board adopted the current Triennial Review Priorities on November 15, 2018. State and federal laws require periodic review and revision of Basin Plans ([Resolution No. R6T-2018-0050](#)). The federal process is called “Triennial Review.” The 2018 Triennial Review priority list includes ten projects identified with available resources and nine projects in need of additional resources. Water Board staff are currently engaged in the next Triennial Review planning process.

Basin Planning is primarily the responsibility of the Planning and Assessment Unit. The unit is also responsible for the impaired waters (TMDL, Integrated Report) and surface water monitoring efforts (SWAMP). The unit currently consists of four Environmental Scientists and one Water Resource Control Engineer under the supervision of a Senior Environmental Scientist.

The below table lists the prioritized 2018 Triennial Review projects and notes any progress. The 9 projects in need of additional resources (priorities 11 through 19) are not represented in the below table.

Priority	Project	Progress
1	Evaluate Bacteria Water Quality Objectives	Staff presented informational workshops to the Water Board in January and March 2021. Staff is starting the basin planning process to remove the fecal coliform water quality objective. Scoping for the project is planned for September.
2	Climate Change Adaptation and Mitigation Strategy	The Strategy was adopted by the Water Board in November 2019. The implementation plan is integrated with annual planning and reporting for Water Board programs. The Regional Monitoring Coordinator will present and update the Water Board in September.
3	Source Water Protection	No specific progress.
4	Riparian Protection Policy	No specific progress.
5	Mojave River Surface Water Beneficial Use Revisions	USEPA approved the amendment November 2020. Approval letter indicated approval of staff report intent and understanding that subsequent Water Board basin planning action would provide edits to meet the intent of the adopted action.
6	Site-Specific Water Quality Objectives for Mojave Ground Water	Staff is becoming familiar with the history and progress on this project and is assigned hours in the current fiscal year.
7	Remove Lake Tahoe Prohibition on New Pier Construction	OAL approved the action October 29, 2019. The NOD was submitted to the Secretary of the Resources Agency January 8, 2020.
8	Tribal and Subsistence Beneficial Uses	The Basin Plan amendment issued to the Water Board in September, to add the BU definitions to the Basin Plan, was approved by the State Board in May 2021. It is with the Office of Administrative Law for review. Staff is currently strategizing future efforts for beneficial use waterbody designation amendments.

Priority	Project	Progress
9	Truckee River Embedded/Deposited Sediment Objective	Staff was assigned to COVID-19 contact tracing and case investigation duties for most of FY 20-21. Staff are currently working on the review and will provide recommendations to management, which will be presented to the Board in winter or spring 2022.
10	Editorial Revisions, Corrections, and Incorporation of Adopted State Water Board Policies	This is an ongoing need. Some edits were included in the amendment associated with item 5. Others will be considered in future amendments, or as a stand-alone “clean-up” amendment.

3. Lukins Brother Water Company Installs Well-Head Treatment System for South Lake Tahoe Municipal Supply Well Impaired with Tetrachloroethylene
– Abby Cazier

Lukins Brothers Water Company (LBWC) is a small water purveyor that provides the domestic water supply to approximately 975 residential and commercial customers in South “Y” area of South Lake Tahoe. The domestic groundwater supply within the LBWC service area has been impaired by a tetrachloroethylene (PCE) plume that extends from near the intersection of Highway 50 and Highway 89 to the Tahoe Keys. Since 1989, four of the five municipal supply wells operated by LBWC have become impaired with PCE (PCE concentrations exceed the maximum contaminant level [MCL] of 5 micrograms per liter [ug/L]) and impaired wells have been taken off-line or properly destroyed. Since 2014, LBWC has relied on their last unimpacted municipal supply well (PCE has not been detected above analytical reporting limit of 0.5 ug/L), LBWC #1, as the primary domestic water supply for the LBWC service area with supplemental supply provided through an inter-tie connection with the South Tahoe Public Utilities District to meet peak water demands.

In 2019, LBWC was awarded an approximately 3.1-million-dollar grant from the State Water Resources Control Board’s Proposition 68 and Proposition 1 Water Quality, Supply, and Infrastructure Improvement Act of 2014 to construct a granular activated carbon (GAC) water treatment system to remove PCE from groundwater extracted from LBWC #5 municipal supply well that has been impaired with PCE since 2014. The GAC water treatment system was designed and construction was managed by Lumos & Associates. The system was constructed by Thomas Haen Co Inc. In July 2021, the GAC water treatment plant was brought online and is capable of treating influent flows up to 720 gallons per minute (gpm) with an average operational flow rate of 400 gpm. The process flow diagram for LBWC #5 GAC treatment system is shown on Figure 3.1.

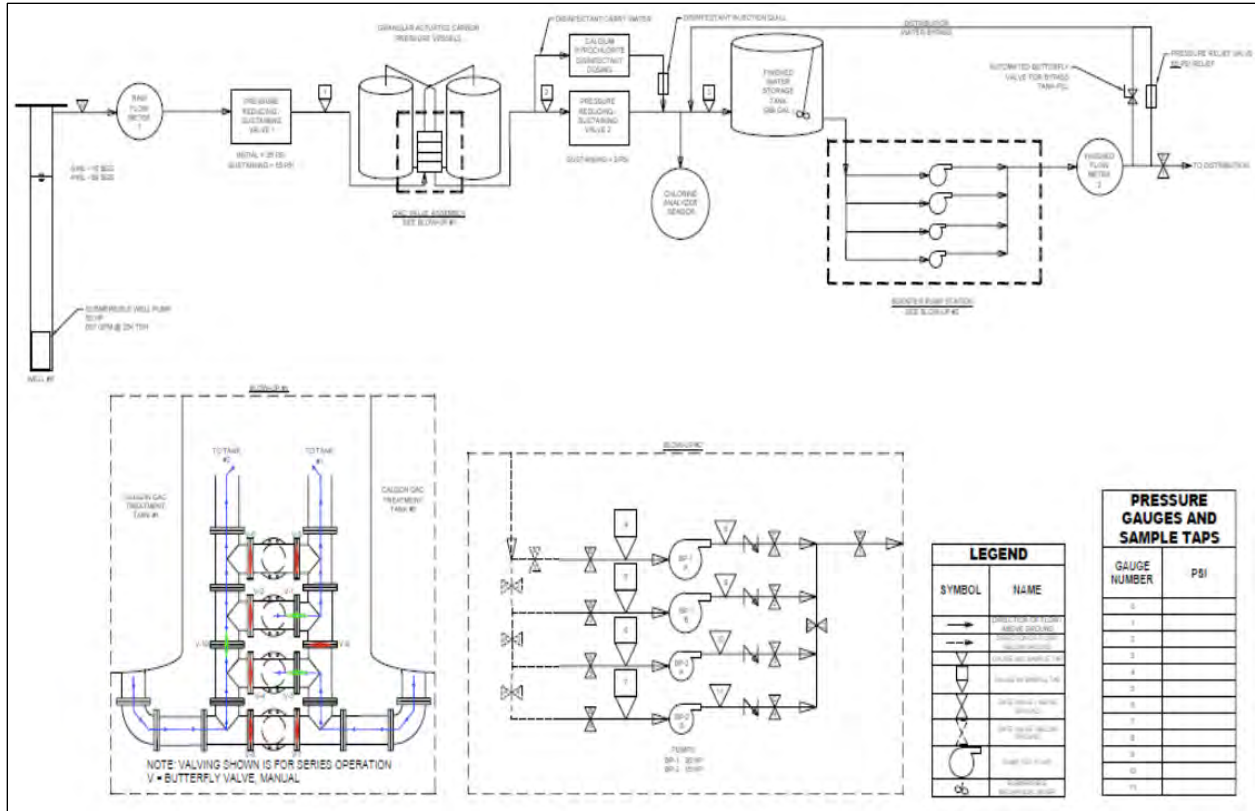


Figure 3.1: LBWC #5 process flow diagram (Figure obtained from Lumos & Associates design drawings used with permission from LBWC)

This GAC water treatment system for LBWC #5 is equipped with a submersible well pump, a backup diesel generator (Figure 3.2), a structure to house GAC treatment system components, programmable logic controller (PLC), human machine interface (HMI [Figure 3.3]), two 2,200-gallon GAC vessels in series (Figure 3.4), chlorine disinfection system (Figure 3.5), redundant booster pumps (Figure 3.6), a 98,000-gallon treated water storage tank (Figure 3.7), and piping to the water supply distribution system. As untreated water from LBWC #5 flows through the two GAC vessels, volatile organic compounds including PCE are adsorbed to GAC media surface.

The GAC treatment system is capable of removing approximately 99.9 percent of PCE from groundwater pumped from LBWC #5 prior to distribution. Routine system operation and maintenance (O&M) and monthly performance monitoring and sampling is performed by LBWC personnel. Periodic replacement of the GAC media will be required because the GAC media will eventually be unable to adsorb volatile organic compounds (VOCs – including PCE). GAC replacement frequency will be contingent on influent flow rates and PCE concentrations. Performance monitoring and sampling results will also be evaluated to determine the GAC replacement schedule and GAC media will be replaced before VOC breakthrough occurs. Although the grant funding covered 100 percent of the cost to design and construct the GAC treatment system, LBWC is responsible for paying for O&M and performance monitoring costs.

Recent available monitoring and sampling results from July 12, 2021, indicate that PCE concentrations for the influent plant feed were 60 ug/L, PCE concentrations from the GAC vessel effluent were below the laboratory reporting limit of 0.5 ug/L, and treated water effluent PCE concentrations were also below the reporting limit of 0.5 ug/L.

With the LBWC #5 treatment system online, LBWC now has sufficient capacity to meet service area peak water demands and supply water to the Tahoe Key Property Owners Association service area when needed through an inter-tie connection.

We would like to congratulate LBWC, and especially Jenn Lukins, for her dedication to our community for seeking grant funding and executing a successful infrastructure improvement project to continue supplying LBWC customers with a clean, safe, and reliable drinking water supply.



Figure 3.2: LBWC #5 and backup diesel generator



Figure 3.3: HMI



Figure 3.4: One of the two carbon vessels



Figure 3.5: Chlorine disinfection system



Figure 3.6: Booster pumps



Figure 3.7: Treated water storage tank

South Lahontan Region

**4. The Seventh Annual San Bernardino County Water Conservation Festival –
Amanda Lopez, Molina Hauv, and Jan Zimmerman**



Figure 4.1 – Lahontan Water Board table at the Water Conservation Festival held on August 7, 2021.

Lahontan Water Board staff members Amanda Lopez, Molina Hauv, and Jan Zimmerman, volunteered to represent the Lahontan Water Board at the seventh annual Water Conservation Festival (Festival) hosted by the County of San Bernardino Special Districts at the Spring Valley Lake Community Center in Spring Valley Lake on Saturday, August 7th. The Festival was a public outreach event intended to educate the general public in the greater Victor Valley area on the value of our groundwater resources, where our drinking water comes from, and the importance of water conservation in the High Desert (see Figure 4.1). Other agencies attending the Festival included various San Bernardino County departments (Fire, Public Health, Public Works, Regional Parks, and Solid Waste Management), Alliance for *Water* Awareness and Conservation, Mojave Desert Resource Conservation District, National Resource Conservation District, Red Cross, and Spring Valley Lake Veteran's Club to name a few.

Water Board staff setup and manned a booth to introduce the public to who we are and what we do to protect water quality in the region. The main attraction of our booth was an Enviroscape diorama model that demonstrates how storm water, streams, lakes, and groundwater can be polluted by urban runoff and waste spills. The diorama was used to demonstrate how sewage is collected and treated and how drinking water and the aquifer can be impacted. Children and adults alike were fascinated by the demonstration. Staff also distributed free literature, pencils, pens, and other complementary items provided by the State Water Board.

The event was a success, and we expect that San Bernardino County Special Districts will invite us back for the 2022 annual event to be held sometime next summer.

5. Lake Arrowhead Community Services District Efforts to Reduce Sewage Spills – *Sergio Alonso*

This article describes efforts the Lake Arrowhead Community Services District (District) is taking to eliminate sewage spills from its sanitary sewer collection system and wastewater treatment plant.

Water Board Requirements

The Water Board regulates the District's collection, treatment, and disposal facilities through three board orders.

- Individual waste discharge requirements (WDRs) establishing effluent limitations for the Grass Valley wastewater treatment plant and receiving water limitations for the Hesperia percolation ponds.
- Enrollee under statewide WDRs requiring a sanitary sewer collection system operation and maintenance program.
- Water Board issued Cease and Desist Order (CDO) R6V-2013-0022 requiring actions to reduce infiltration and inflow in the sanitary sewer collection system.

Infiltration is groundwater seeping into the system from piping cracks, and inflow is water from storm events or snow melt entering through unsealed manholes.

Sewer Collection System I/I and Spill Reduction

Historically, the District's wastewater treatment would occasionally overflow treated effluent to Grass Valley Creek causing illegal spills during high precipitation events. To prevent these unauthorized discharges, the Water Board issued Cease and Desist Order (CDO) R6V-2013-0022. Water Board staff identified the main cause of the spills as excessive infiltration and inflow in the sanitary sewer collection system causing increased flow to the treatment plant. To comply with the CDO, the District continues rehabilitation and repair to sewer collection system components through root removal, manhole repair, pipe slip lining, and closed-circuit television (CCTV) inspections. As a result, sewer collection spills have significantly reduced to only two during year 2020, as shown on Figure 5.1.

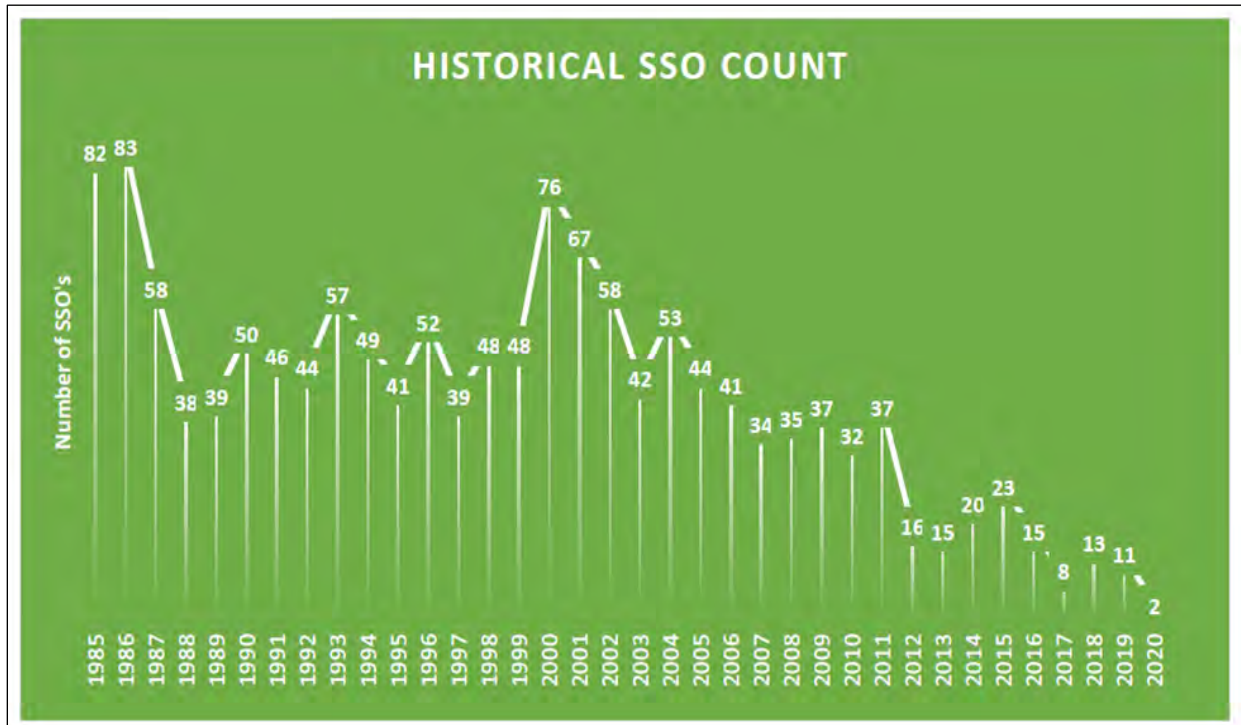


Figure 5.1 – Historical trends of sanitary sewer overflows between 1985 and 2020. There has been a consistent drop in the long term.

Water Board staff verified these efforts by completing an audit of the District's sanitary sewer maintenance program in May 2021. During the audit, the District informed staff of where manholes have been repaired and/or replaced, as well as manholes scheduled for upcoming maintenance. The District has equipment to respond to sewer spills including a vacuum truck and operates its own CCTV system to inspect for sewer line damage.

Outfall Line Capacity

The cause of many spills at the wastewater treatment plant is related to outfall pipeline backs up to Grass Valley Creek during storm events. These controlled discharges are a means to relieve the overflowing pipeline, most recently utilized during the winter 2018-2019. The District has identified and is working to eliminate a flow constriction in the outfall pipeline. The outfall pipeline is about 10 miles long and has an approximate 2,000-foot elevation drop between the treatment plant and percolation ponds.

According to the District's WDRs, the rated maximum capacity of the outfall pipeline is 4.0 million gallons per day (MGD). The District had recently reported that the capacity of the outfall was 3.74 MGD contributing to overflows during storm events. Subsequently, the District identified a short outfall pipeline segment of smaller diameter beneath the Mojave Forks Dam. Coming out of the Grass Valley treatment plant the outfall pipeline diameter changes from 24-inch, to 10-inch, to 8-inch, to 12-inch at the Hesperia percolation ponds. The 8-inch pipeline segment is only a few hundred feet beneath the Mojave Forks Dam and is a flow constriction. The District is working with the United States Army Corps of Engineers to obtain access permission for replacing this short pipeline segment by upsizing it from a current 8-inch diameter to a 12-inch diameter pipeline, making it compatible with the rest of the pipeline (Figure 5.2). The total upsizing in the pipeline would allow for an increased flow capacity to 4.03 MGD.

Increased Storage Capacity

The District is evaluating plans to increase emergency storage at the Grass Valley Wastewater Treatment Plant. This option is to design and construct a 1-million-gallon tank at the Plant for emergency storage of effluent to prevent future overflow conditions. An obstacle to this option is the limited space on the plant site. These actions, including continued improvements and maintenance to the sanitary sewer collection system, will reduce unauthorized storm event discharges to Grass Valley Creek.

Spills Still Occur

Sewage spills still occur in the District's sewer collection and disposal system, most recently in July 2021 (Figure 5.3). A collection-line blockage resulted in overflow of about 2,900 gallons into Lake Arrowhead. The blockage was removed using a hydro-jet. The District discovered that the sewer line was blocked by rebar installed by volunteers of the Arrowhead Lake Association to improve the lake trail. The lake was posted warning visitors of sewage and bacteriological samples were collected by the District until lake samples indicated normal concentrations, which took about four days later. The District removed surficial sewage debris released during the spill and restored the disturbed eroded shoreline bank.

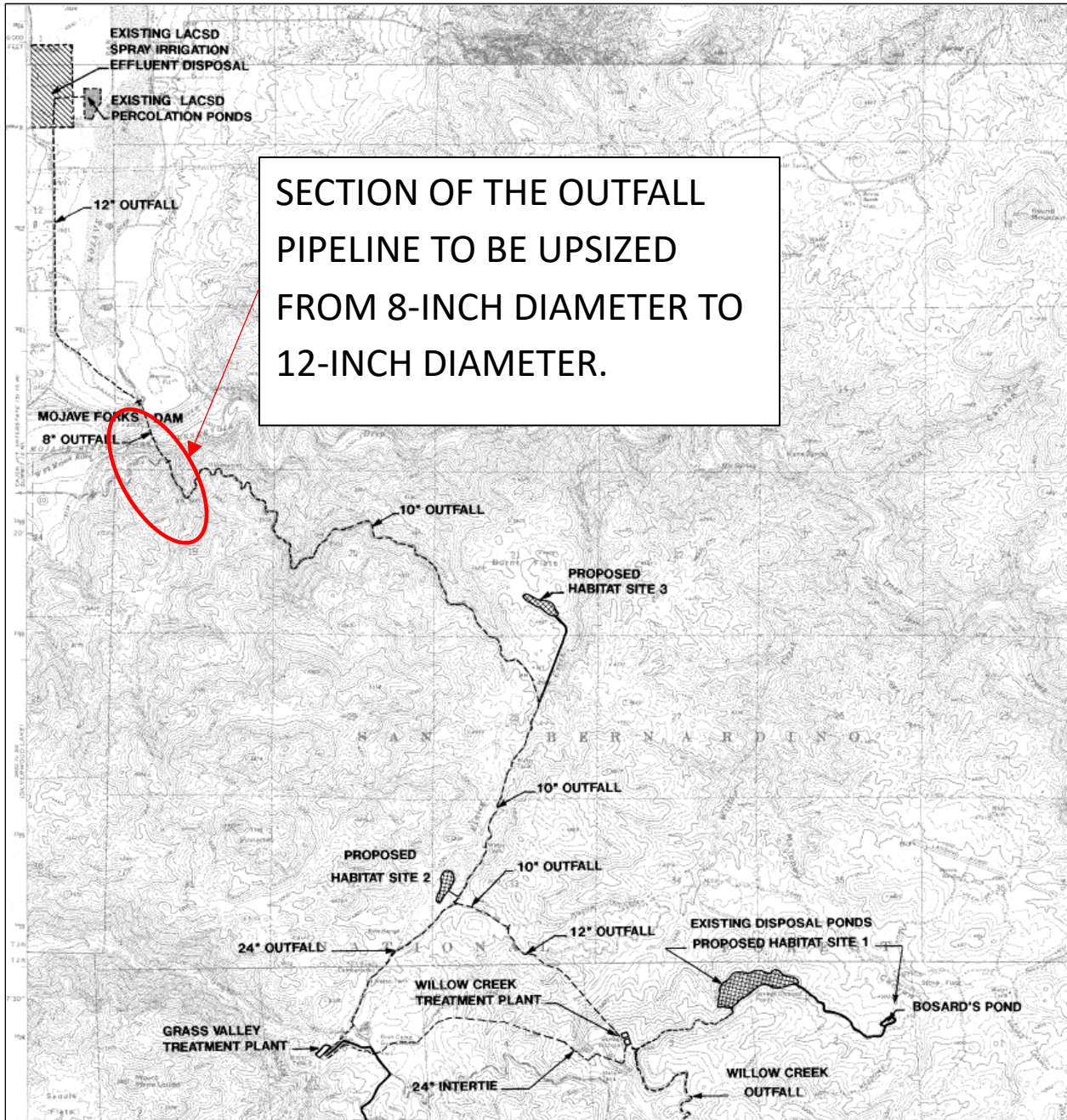


Figure 5.2 – This map shows the District’s outfall pipeline from the newer Grass Valley Wastewater Treatment Plant heading down the north slope of the San Bernardino Mountains to the percolation ponds near Hesperia. The Grass Valley Creek canyon, northwest of the Grass Valley Wastewater Treatment Plant, is where the District has conducted unauthorized controlled discharges during excessive flow events. The older Willow Creek Wastewater Treatment Plant is used to equalize wastewater flow and is connected to the Grass Valley Wastewater Treatment Plant but does not discharge at this location.



Figure 5.3 – Photograph of a July 2021, 2,900-gallon sewer line spill into Lake Arrowhead caused by blockage in the line.