



**ANNUAL PROGRESS REPORT JANUARY 1 - DECEMBER 31, 2021**

# **Santa Clara Valley Water District Local Hazard Mitigation Plan**

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# SANTA CLARA VALLEY WATER DISTRICT LOCAL HAZARD MITIGATION PLAN PROGRESS REPORT

## REPORTING PERIOD

The reporting period for this progress report is 01-01-2022 through 12-31-2022.

## BACKGROUND

The Santa Clara Valley Water District (Valley Water) has developed a hazard mitigation plan to reduce risk from all hazards by identifying resources, information, and strategies for risk reduction. The federal Disaster Mitigation Act of 2000 requires state and local governments to develop hazard mitigation plans as a condition for federal disaster grant assistance. To prepare the plan, Valley Water organized resources, assessed risks from natural hazards, developed planning goals and objectives, reviewed mitigation alternatives, and developed an action plan to address probable impacts from natural hazards. By completing this process, Valley Water has maintained compliance with the Disaster Mitigation Act, achieving eligibility for mitigation grant funding opportunities afforded under the Robert T. Stafford Act. The plan can be viewed online at: <https://www.valleywater.org/LHMP>.

## PURPOSE

The purpose of this report is to provide an update on the implementation of the mitigation initiatives identified in the *Santa Clara Valley Water District Local Hazard Mitigation Plan*. The objective is to ensure that there is a continuing planning process that will keep the Santa Clara Valley Water District Local Hazard Mitigation Plan dynamic and responsive to the needs and capabilities of Valley Water and its stakeholders.

## PLANNING COMMITTEE

For the reporting period, the committee membership is listed in Table 1.

**Table 1. Planning Committee**

Name	Title
Juan Ledesma	Program Administrator Supervisor, Santa Clara County / Santa Clara Valley Water District
Alexander Gordon	Assistant Officer, Emergency, Safety and Security Division
Jesse Soto	Facilities Unit Manager, Facilities & Fleet
Linh Hoang	Unit Manager, Office of Communications
Michael Cook	Deputy Administrative Officer, Information Technology Division
Sherilyn Tran	Unit Manager, Office of Civic Engagement
Afshin Rouhani	Unit Manager, Water Resources Planning & Policy
Christopher Hakes	Deputy Operating Officer, Dam Safety & Capital Delivery Division
Jennifer Codianne	Deputy Operating Officer, Watersheds Operations & Maintenance Division
John Bourgeois	Deputy Operating Officer, Watersheds Stewardship & Planning Division
John Chapman	Unit Manager, Vegetation & Field Operations
Kurt Lueneburger	Unit Manager, Environmental Planning

Name	Title
Liang Xu	Manager, Hydrology, Hydraulics & Geomorphology
Lisa Infante	Assistant Officer, Watersheds Stewardship & Planning Division
Jay Lee	Unit Manager, Watersheds Field Operations
Rechelle Blank	Deputy Operating Officer, Watersheds Design & Construction Division
Roger Narsim	Unit Manager, Watersheds Design & Construction Unit 5
Scott Akin	Unit Manager, Watersheds Operations & Maintenance Environmental Support
Bhavani Yerrapotu	Deputy Operating Officer, Watersheds Design & Construction Division
Brandon Ponce	Unit Manager, Capital Engineering Manager
Devin Mody	Engineering Support Manager, Operations & Maintenance
Erin Baker	Unit Manager, Asset Management
Greg Williams	Deputy Operating Officer, Raw Water Division
Heath McMahon	Deputy Operating Officer, Water Utility Capital Division
John Brosnan	Unit Manager, Utility & Electrical Control Systems
Kirsten Struve	Assistant Officer, Water Supply Division
Rolando Bueno	Unit Manager, Pipelines Project Delivery
Surjit Saini	Unit Manager, Laboratory Services
Vanessa De La Piedra	Unit Manager, Groundwater Management
Vincent Gin	Deputy Operating Officer, Water Supply Division

## SUMMARY OVERVIEW OF THE PLAN'S PROGRESS

The performance period for the Santa Clara Valley Water District Local Hazard Mitigation Plan became effective on 05-02-2018, with the final approval of the plan by FEMA. The initial performance period for this plan will be 5 years, with an anticipated update to the plan to occur before 05-02-2023. The Santa Clara Valley Water District Local Hazard Mitigation Plan originally targeted 48 hazard mitigation actions to be pursued during the 5-year performance period. For this year five strategies straddled both the Water Utility and Watersheds divisions, therefore a count of 53 was obtained for this year's report. As of the reporting period, the following overall progress can be reported:

- 6 out of 53 initiatives (11%) reported progress toward completion.
- 1 out of 53 initiatives (2%) reported no action taken.
- 1 out of 53 initiatives (2%) were completed.
- 45 out of 53 initiatives (85%) indicated work is conducted as an ongoing capability.
- 9 initiatives were removed due to elimination of a program.

**Review of the Action Plan** Table 2 reviews the action plan, reporting the status of each initiative. Status is defined as either ongoing (no definitive beginning or end), in progress (some progress has been made this calendar year), no progress (no progress made this calendar year), discontinued (as described above), or completed.

**Table 2. Action Plan Matrix**

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
<b>Santa Clara Valley Water District</b>				
<b>1.1 Continue to stockpile repair materials, portable pumps, and other supplies to assist with rapid and functional repairs to water utility and watershed infrastructure.</b>				
Yes	Other, please specify	High / No	Valley Water has a supply of equipment and materials, including pipe repair materials, large diameter pipe, valves, boulders (to arrest erosion), portable pumps, hoses, generators, and other equipment and materials needed to respond to hazards and outages.	Ongoing Capability
<b>1.2 Continue to incorporate the effects of climate change into water utility and watershed infrastructure vulnerability studies.</b>				
No	Other, please specify		This mitigation action has been discontinued as associated work is addressed in measure 1.5.	Discontinued
<b>1.3 Improve the energy independence of Valley Water's facilities and infrastructure through energy efficiency, on-site or local renewable energy systems, micro grids, and energy storage facilities. Ensure adequate emergency power is available in the interim.</b>				
Yes	Other, please specify	Low / No	Valley Water successfully provided continued system operations through two PG&E Public Safety Power Shutoff (PSPS) events in October 2020 and used the interruptions as opportunity to improve system resiliency. To improve local renewable energy portfolio, staff completed the Headquarters solar carport rehabilitation with the solar developer. Valley Water continues to implement the energy optimization measures (EOMs) recommended by the 2013 Energy Optimization Plan. Thirty-seven of the original 49 EOMs have been completed since 2013 and there are currently 2 EOMs in progress. Valley Water has continued to update existing lighting with LEDs both inside and outside the main campus. Exploring the replacement of the solar panels on the main campus Administration building.  WU: Valley Water evaluated the utility infrastructure around Pacheco Pumping Plant (PPP) and identified multiple options to increase the power resiliency, including generator evaluation, the addition of solar and battery, and/or the installation of a redundant	Ongoing Capability

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
			transmission line (with potential private partnership) that would be capable of supplying power to PPP. During the summer, Valley Water also participated in a demand response program to help keep the utility grid stable, if needed, during high utility demand. At smaller critical remote sites, Valley Water begin implementing standby battery backup power, and has a contractor ready to proceed with pilot site development once equipment supply is available. Valley Water also evaluated a new Federal Energy Regulatory Commission (FERC) Order 2222 that promotes distributed generation and could facilitate a potential size increase to new and existing onsite solar projects. Valley Water is participating in the Recurrent State Solar Project through the Power and Water Resources Pooling Authority. The offsite project is nearing commercial operation date (est. Q1 FY22) to increase the renewable energy in Valley Water's energy portfolio for long term benefit. Valley Water continues to implement the energy optimization measures (EOMs) recommended by the 2013 Energy Optimization Plan. Thirty-nine (39) of the original 49 EOMs have been completed since 2013 and there are currently 6 EOMs in progress.	
<b>1.4 Continue to distribute information about disaster preparations through mailings, printed notifications, educational campaigns, social media, digital devices, addressing media inquiries, and in-person events and workshops. This information should be distributed widely and in all commonly spoken languages within Valley Water's service territory.</b>				
Yes	Other, please specify	Medium / No	Get Flood Ready, Valley Water's annual flood awareness campaign, continued to serve as the outreach engagement effort, which includes general disaster preparedness tips provided through an annual mailer. Additional public relations work included paid radio and television ads, web/blog posts, media interviews and social media. Ads are in English, Chinese, Spanish, and Vietnamese. Valley Water's latest iteration of this campaign includes continuing multilingual video content. Valley Water also engaged in promotion of the first ever virtual Get Flood Ready workshop event, developed to remotely outreach to residents and businesses located in hot spots, areas prone to flooding.	Ongoing Capability

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
<b>1.5 Conduct hazard vulnerability studies, including anticipated climate change impacts, in advance of all new infrastructure siting and construction.</b>				
Yes	Other, please specify	Medium / No	Valley Water staff continues site analysis as part of the Capital project planning and design process.	Ongoing Capability
<b>1.6 Continue to participate in the Silicon Valley Regional Interoperability Authority (SVRIA) to improve emergency communications between Valley Water and other Santa Clara County jurisdictions.</b>				
Yes	Other, please specify	Medium / No	Valley Water is currently in the early phases of implementation on this project. Currently, discussing/seeking agreements with outside agencies for the monitoring of emergency "911" type buttons for field radios. Upon completion of this effort, with programming assistance from the county, the full rollout will commence.	Ongoing Capability
<b>1.7 When siting new infrastructure, try to avoid locating facilities in areas of high hazard risk. If this is unavoidable, integrate extensive mitigation measures into the facility to reduce vulnerability from all applicable hazards.</b>				
No	Other, please specify	No	This mitigation action has been discontinued as associated work is captured in measure 1.5.	Discontinued
<b>1.8 Improve estimates of potential damage to Valley Water facilities from various potential emergency situations and integrate these estimates into appropriate planning efforts.</b>				
Yes	Other, please specify	Low / No	Estimates of repair costs for watersheds and water utility assets are located in the Draft 5-year Watersheds O&M plan and Water Utility Enterprise O&M plan and asset management plans. The water utility Infrastructure Reliability Plan and the Water Utility Asset Management Program Plans inform future planning efforts.	Ongoing Capability
<b>1.9 Update all emergency planning documents every five years to ensure consistency with state and federal laws, eligibility for hazard mitigation grant funding, best practices, local conditions, and updated science.</b>				
Yes	Other, please specify	Low / No	<b>WATERSHEDS:</b> Work on creek- or location-specific Emergency Action Plans (EAPs) continues, including the Lower Peninsula Watershed, Upper Penitencia Creek, and Palo Alto Flood Basin EAPs.	Ongoing Capability

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
			<p><b>WATER UTILITY:</b> As required by the AWIA, Valley Water submitted certification to the EPA that a Risk and Resiliency Analysis (RRA) of our system was completed by March 31, 2020, and that an Emergency Response Plan (ERP) was completed by September 30, 2020. Valley Water will submit the next certification in March and September 2025. The 5-year timeframe for emergency plan updates is being adhered to. Valley Water's Emergency Operations Plan was updated in Feb. 2020. The Local Hazard Mitigation Plan annual report is currently (Feb.2022) being updated that includes a review and update of the plan's mitigation projects. Creek emergency action procedures have been completed for West Little Llagas Creek, Uvas Creek, and San Tomas Aquino Creek. San Francisquito Creek's procedure was updated to include external agency input. Currently (Feb 2022) the development of the Upper Penitencia Creek emergency response is being accomplished and when completed will be incorporated into the appendix of the Joint Emergency Action Plan that is a "co-owned" document with the City of San Jose.</p>	
<b>1.10 Regularly pursue funding opportunities for hazard mitigation activities.</b>				
Yes	Other, please specify	Medium / No	<p><b>WATERSHEDS:</b> No new updates.</p> <p><b>WATER UTILITY:</b> Grants awarded in 2021:</p> <ol style="list-style-type: none"> <li>1) \$3.37 million grant from the San Francisco Bay Restoration Authority under Measure AA to support the Calabazas San Tomas Aquino Creek Marsh Connection Project.</li> <li>2) \$500,000 grant from the California Department of Fish and Wildlife.</li> <li>3) \$1,019,735 grant under the California Department of Finance COVID-19 Relief Fund.</li> </ol>	Ongoing Capability
<b>1.11 Assess the capability and feasibility of using inter-organizational and public/private water distribution infrastructure ("water-wheeling") as an alternate or backup.</b>				
No	Short Term (< 5 yrs.)	Low / No	Valley Water has developed agreement templates that can be used in an emergency to wheel retailer water supplies through Valley Water pipelines.	Completed

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
<b>1.12 Install pipeline isolation valves to enable smaller geographic service outages and shorter recovery periods.</b>				
Yes	Long Term (5+ yrs.)	High / No	Design of IRP2 Additional Line Valves was completed for Snell Pipeline, East Pipeline and West Pipeline (2 locations). Design Phase began for the Treated Water Isolation Valves Project.	In Progress
<b>1.13 Conduct a Retailer Intertie Study to explore the capacity and interconnectivity of retailer interties.</b>				
Yes	Short Term (< 5 yrs.)	Medium / No	No work has started. Valley Water will continue to work with retailers to identify which agency will lead the project and will provide resources and support once the project begins.	No Progress
<b>1.14 Install interties and connections to public and private groundwater wells for redundancy, including connections between the Snell Pipeline and the Great Oaks Water Company wells, the Santa Clara Distributary and the planned City of Santa Clara Serra Tank well, and the Mountain View Distributary and the planned City of Mountain View Miramonte well.</b>				
Yes	Long Term (5+ yrs.)	Low / No	The proposed interties are anticipated to be re-evaluated during the upcoming Water Treatment Plant and/or Distribution System Implementation Plans, currently scheduled to be complete in 2023. In addition, the City of Santa Clara and City of Mountain View are continuing to investigate well sites and partnership on future connections is pending the outcome of those studies.	In Progress
<b>1.15 Implement projects and support regional and state efforts to increase the resiliency, redundancy and reliability in water supply and safety infrastructure.</b>				
Yes	Other, please specify	High / No	<b>WATER UTILITY:</b> <b>Delta Conveyance Project:</b> Valley Water approved a provisional participation rate of 3.23 percent in November 2020. Public draft EIR expected mid-2022 and final EIR expected at the end of 2023. ESA/CESA permitting conversations with fish agencies are ongoing with permits expected near the end of 2023. <b>Los Vaqueros Reservoir Expansion:</b> Valley Water joined the JPA along with 7 other agencies in Fall 2021. Modeling and analysis of operations and costs (Transfer Bethany Pipeline and reservoir) is under review. The	Ongoing Capability

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
			<p>California Water Commission deemed the project feasible, which maintained its eligibility for WSIP funding. To date, \$64 million in federal appropriations and \$22.95 million in early state funding has been granted. \$54 million of the federal appropriations is allocated for construction. The project continues to work to receive more federal funding under the WIIN Act.</p> <p><b>Sites Reservoir Project:</b> Valley Water approved the third funding agreement amendment in March 2022 to continue participation at 0.2% at a cost of \$200,000 over three years. Work related to preliminary design, water rights, and permitting is currently underway. CEQA and NEPA review is in progress with final EIR/EIS expected in late 2022. Project funding includes \$836 million in CA Proposition 1 funding and \$104.1 million in federal funding under the WINN Act.</p> <p><b>Groundwater Banking Projects:</b> Evaluation of multiple groundwater banking projects under development by local agencies ongoing. Recent efforts include analysis of specific groundwater conditions, potential impacts due to implementation of the Sustainable Groundwater Management Act, local management and proposed banking operations. The Aquaterra Groundwater Bank, under development by the McMullin Groundwater Sustainability Agency, made the most progress in 2021, with staff reviewing a preliminary feasibility study and proposed initial agreement terms. A pilot banking agreement was finalized for execution with AVEK Water Agency to test the functionality of a future large-scale project. Finally, negotiations were finalized with a consultant to determine the feasibility of Valley Water developing a groundwater bank out-of-county in the Central Valley.</p> <p><b>South Bay Aqueduct Reliability Improvements:</b> Continuing collaboration with Department of Water Resources to expedite pipeline rehabilitation work including inspection, leak detection and repair, and geotechnical monitoring of landslide areas. A Smartball leak inspection was conducted in November 2020, Weko-Seals installed in December 2020, and a geotechnical study of the landslide was completed. DWR is currently working on operational and maintenance</p>	

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
			<p>improvements as well as alternatives analysis and feasibility planning for the long-term rehabilitation of the pipeline, both of which are expected to be completed in the next 2-5 years.</p> <p><b>WATERSHEDS:</b></p> <p><b>Groundwater Banking Projects:</b> Analysis of groundwater banking projects is underway. Evaluation criteria were developed to rank the available projects and focus resources. On-going efforts include planning and analysis of specific groundwater conditions, management, and proposed banking operations as well as development of ideal partnership agreement terms. Various relationships and partnerships are pending with potential pilot programs being considered to test functionality of future large-scale projects.</p> <p><b>South Bay Aqueduct Reliability Improvements:</b> Collaboration with Department of Water Resources to expedite pipeline rehabilitation work including inspection, leak detection and repair, and geotechnical monitoring of landslide areas. A Smartball leak inspection was conducted in November 2020, Weko-Seals installed in December 2020, and a geotechnical study of the landslide was completed. Schedule for additional work is under consideration but expected to occur over the next 8-12 months.</p> <p><b>Delta Conveyance Project:</b> Completed the Agreement in Principle amendment. Preliminary level of participation and funding agreements executed. CEQA and NEPA review in progress. ESA/CESA permitting conversations with fish agencies is ongoing.</p> <p><b>Los Vaqueros Reservoir Expansion:</b> Development of JPA governance and finance structure ongoing. Modeling and analysis of operations and facilities (Transfer Bethany Pipeline) is under review. Valley Water approved a second funding amendment in December 2020. Project completed final EIR/EIS documents and Feasibility Report. To date, \$14.1 million in federal appropriations and \$22.9 million in early state funding has been granted.</p> <p><b>Sites Reservoir Project:</b> Project downsized to 1.5 TAF based on a desire to reduce costs. Valley Water approved a second funding agreement amendment in December 2020.</p>	

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
			<p>CEQA and NEPA review in progress with updated public drafts expected in 2021. Reclamation released the final Feasibility Report making the project eligible for future federal funding. To date, \$10 million in federal appropriations and \$40.8 million in early state funding has been granted.</p> <p><b>Groundwater Banking Projects:</b> Analysis of groundwater banking projects is underway. Evaluation criteria were developed to rank the available projects and focus resources. Ongoing efforts include planning and analysis of specific groundwater conditions, management, and proposed banking operations as well as development of ideal partnership agreement terms. Various relationships and partnerships are pending with potential pilot programs being considered to test functionality of future large-scale projects.</p> <p><b>South Bay Aqueduct Reliability Improvements:</b> Collaboration with Department of Water Resources to expedite pipeline rehabilitation work including inspection, leak detection and repair, and geotechnical monitoring of landslide areas. A Smartball leak inspection was conducted in November 2020, Weko-Seals installed in December 2020, and a geotechnical study of the landslide was completed. Schedule for additional work is under consideration but expected to occur over the next 8-12 months.</p>	
<b>1.16 Develop interagency mutual-aid agreements and emergency assistance protocols between Valley Water and surrounding jurisdictions.</b>				
Yes	Other, please specify	Low / No	Valley Water maintains agreements with CAMAL Net (laboratory service) and CalWARN (water agencies) for emergency assistance and mutual aid. Valley Water is working with Cal Fire to establish new agreement to provide emergency assistance (water tenders). Valley Water also participates in the California Disaster and Civil Defense Master Mutual Aid Agreement.	Ongoing Capability

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
<b>2.1 Work with local jurisdictions in dam inundation zones to ensure residents and businesses are aware of the potential risk, and that dam inundation mitigation strategies are integrated into local planning efforts. Use GIS mapping for risk analysis and communication as appropriate.</b>				
Yes	Other, please specify	High / No	In October 2021, an orientation slide show on dam EAPs and inundation map interpretation was presented to the Santa Clara County Emergency Management Association. In August and September 2021, a Table Top Exercise and Functional Exercise were conducted with downstream agencies of Anderson Dam.	Ongoing Capability
<b>2.2 If appropriate, identify critical dam infrastructure at heightened risk from dam failure and develop a plan to protect or retrofit those facilities.</b>				
Yes	Other, please specify	Low / No	Seismic studies to identify dams at heightened risk of failure, and seismic retrofits and/or improvements are underway as applicable.	Ongoing Capability
<b>3.1 Evaluate the long-term impact of climate change on future water supplies and include more severe drought conditions in water supply planning documents.</b>				
Yes	Other, please specify	High / No	The Water Supply Master Plan 2040 second annual Monitoring and Assessment Plan (MAP) was presented to the board on October 22, 2021. The Master Plan informs investment decisions by describing the type and level of water supply investments Valley Water is planning to make through 2040, emphasizing drought-resilience strategies using historical water supply data. As part of the second MAP board update, Valley Water conducted a Climate Change Assessment to evaluate the impacts of climate change on local reservoir inflows, precipitation, temperatures, and imported water supplies. Additionally, Valley Water updated the project risk assessment that was performed in 2017 to address Valley Water's updated understanding of water supply projects. The goal of the risk assessment is to determine where and what types of risk exist for projects so that Valley Water can mitigate or adapt to the risks.	Ongoing Capability

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
<b>3.2 Work with retail water suppliers to offer free or low-cost water audits for residents and businesses within Valley Water's service territory.</b>				
Yes	Other, please specify	Low / No	Valley Water works with retailers to offer a free Water Wise Survey Program, which includes two components: an outdoor irrigation survey and an indoor water audit do-it-yourself kit. Valley Water also provides a free Large Landscape Program, which includes an outdoor irrigation survey and site-specific landscape water use budgets available to businesses, facilities, and multi-family properties with qualifying landscapes.	Ongoing Capability
<b>3.3 Work with retail water suppliers to support real-time water monitoring for all customers.</b>				
Yes	Short Term (< 5 yrs.)	Low / No	Valley Water has been working with its water retailers to promote "Advanced Metering Infrastructure" (AMI) technology and home water use reporting. Valley Water has enacted cost-sharing agreements with several retailers to advance and sustain both AMI technology and home water use reports in Santa Clara County. Additionally, Valley Water has included messaging on home water use reports that are sent out in collaboration with retailers.	In Progress
<b>3.4 In coordination with retail water suppliers, host regular workshops and classes on water conservation, including providing information on drought-tolerant landscaping, available rebates for water retrofits, and water efficiency strategies in new buildings. Continue to offer workshops and classes even when drought conditions are not present. Develop outreach materials for water conservation.</b>				
Yes	Other, please specify	Medium / No	The significance of Valley Water's multilingual summer conservation campaign was underscored following a local and statewide water emergency proclamation at the beginning of the 2021 summer season. The annual effort focused on Valley Water's water conservation tools and programs for homeowners, multi-family unit residents and commercial institutions. Featuring the "Drought Ready" slogan, multilingual ads and videos ran on digital, social media, radio and print. Ads promoting water conservation through behavioral changes ran on KCBS, Telemundo and NBC Bay Area. The spots were presented by well-known radio and television personalities. Staff also launched a social	Ongoing Capability

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
			media campaign featuring residential low-irrigation landscapes in Santa Clara County. The campaign provided a link to South Bay Green Gardens. In addition, a social media competition was launched to encourage residents to share their water-saving tips.	
<b>3.5 Increase recycled and purified water supplies and expand the existing recycled and purified water infrastructure.</b>				
Yes	Other, please specify	Low / No	<p>The Purified Water Program is part of Valley Water's strategy to respond to future drought and is consistent with Board of Director's direction to expand the county's water supply. Valley Water secured an average of 9 MGD of treated effluent from City of Palo Alto and negotiations are underway with the City of Palo Alto on a long-term lease agreement and a Reverse Osmosis concentrate management agreement for the construction of a future purification facility. On December 14, 2021, the Board directed staff to focus the development of a Public Private Partnership (P3) project for Indirect Potable Reuse in Palo Alto while continuing discussion with the cities of San Jose and Santa Clara for a potential future project.</p> <p>The Board approved the Countywide Water Reuse Master Plan (CoRe Plan) in June. The project in Palo Alto will have a purified water capacity of 10-14 Million Gallons per Day (MGD) as first implementation project.</p> <p>The project includes a new purification facility and 20 miles of pipeline to the Los Gatos Recharge system for groundwater replenishment. Staff is working with regulators on Reverse Osmosis concentrate management and the Indirect Potable Reuse, working with cities along the pipeline route, and leading the procurement effort, which has included shortlisting four P3 teams. In addition, an Environmental Impact Report (EIR) is being developed.</p>	In Progress

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
<b>3.6 Explore opportunities to recycle water for non-potable and potable uses.</b>				
Yes	Other, please specify	Low / No	Valley Water, as part of the 2019 agreement with the cities of Palo Alto and Mountain View, is funding \$16 million for the development of a Local Salt Removal facility at the Palo Alto wastewater plant, which will enhance the quality of the non-potable recycled water. Design is currently in progress.	Ongoing Capability
<b>3.7 As identified in the Capital Improvement Program (CIP), continue to prioritize water supply improvements as they relate to the risks outlined in this Plan. Coordinate future updates to the CIP to support mitigation actions outlined in this Plan.</b>				
Yes	Other, please specify	Low / No	Santa Clara Conduit Inspection and Rehabilitation Project design completed. Rinconada Water Treatment Plant Residuals Remediation Project awarded for construction and underway. Design/Build RFP issued for Coyote Pump Station Adjustable Speed Drive Replacement Project. Award of construction contract for the South County Recycled Water Pipeline Short-Term Phase 1B/2A/1C/2B Project.	Ongoing Capability
<b>3.8 Implement projects that increase the resiliency or reliability of future water supplies.</b>				
No	Other, please specify	No	This mitigation action has been discontinued as associated work is covered in measure 1.15.	Discontinued
<b>4.1 Continue to repair and improve storm drain and flood protection systems owned and maintained by Valley Water to better accommodate flood flows.</b>				
Yes	Other, please specify	High / No	Draft 5-Year Watersheds O&M Plan presented to Valley Water Board of Directors 01/11/2022. Majority of creek sites identified for maintenance and repairs in 2021 were completed under Valley Water's Stream Maintenance Program. In 2021, to maintain design flow conveyance capacity of streams, approximately 28,034 cubic yards of sediment was removed and approximately 1,773 acres of instream.  Under the Watersheds Asset Rehabilitation Program (WARP), planning and design were performed for 10 erosion sites for the Calabazas Creek from Miller Ave to Bollinger Rd. This Project was advertised for public	Ongoing Capability

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
			bidding under public contract code in March 2022 with the tentative construction start date in June 2022. The construction is expected to be completed by November 2023. Additional projects are at pre-planning level at multiple sites for multiple creeks (Lower Guad, Downtown Guad, Upper Guad – Erosion repair projects, Coyote Creek – Animal damage repair project, Permanente Creek – Flood wall repair project and other O & M related repair projects) per the WARP Goals. Previously constructed projects under WARP were monitored per the SMP2 permit requirements for a three-year period as described in the WARP Project Plan.	
<b>4.2 Monitor creek infrastructure for obstructions and remove any obstructions as quickly as possible.</b>				
Yes	Other, please specify	High / No	Facilities are routinely inspected, blockages are cleared, and known hot spots are monitored throughout the rainy season. Trash and debris are removed when safe to do so and in accordance with regulatory permits. Sediment is removed periodically from streams and erosion repaired as resources allow. In 2021, to maintain design flow conveyance capacity of streams, approximately 28,034 cubic yards of sediment was removed and approximately 1,773 acres of instream vegetation removal was conducted. In addition, approximately 4,891 linear feet of bank stabilization was performed.	Ongoing Capability
<b>4.3 Retrofit hardscaped areas on Valley Water property, including parking lots and plazas, to use permeable paving, green infrastructure, and other low-impact development design features to allow for increased infiltration, even in heavy rain events.</b>				
Yes	Short Term (< 5 yrs.)	Low / No	Retrofits to hardscape areas are planned and carried out as needed based on site and operational requirements. Hardscape improvements that were planned for 2020 but were suspended due to the pandemic have now begun to be implemented budget permitting.	No Progress

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
<b>4.4 Identify and implement effective flood protection measures around water supply facilities and pumping stations, prioritizing facilities located within the 100-year floodplain.</b>				
No	Other, please specify		This mitigation action has been discontinued, as Valley Water has only one pumping station and no other water supply facilities within the 100-year floodplain. During flood season, water supply is at low demand and the system can operate without the pump station.	Discontinued
<b>4.5 As identified in the Capital Improvement Program (CIP), continue to prioritize flood protection improvements as they relate to the risks outlined in this Plan. Coordinate future updates to the CIP to support mitigation actions outlined in this Plan.</b>				
Yes	Other, please specify	Low / No	Rancho San Antonio civil construction was completed in May 2021. Construction of Upper Llagas Phase 1 flood protection improvements to be completed by May 2022. Upper Llagas Phase 2A began construction in June 2021. Lower Calera Creek, between Lower Berryessa Creek confluence and just upstream of Arizona Avenue, completed final design in January 2021 and in construction through January 2023. Lower Penitencia Creek project started construction in June 2021 and civil construction to be completed in December 2022. USACE South San Francisco Bay Shoreline Phase I Project (Reaches 1-3 from Alviso Marina County Park to the Artesian Slough) began construction in December 2021. Hale Creek Enhancement Pilot Project has completed design and will be advertised in early 2022. Design and permitting of Sunnyvale East/West Channels, Palo Alto Flood Basin Tide Gate Structure Replacement, and Coyote Creek (Montague to Tully Road) is continuing. Planning Study report is being prepared for the Upper Penitencia Creek (Coyote Creek to Dorel Drive).	Ongoing Capability
<b>4.6 Develop outreach materials for extreme flood conditions and events.</b>				
Yes	Other, please specify	Medium / No	In November 2021, Valley Water's flood awareness campaign launched with ads in English, Spanish, Chinese and Vietnamese on Valley Water's social media channels. This effort included a postcard mailing on November 10. The current year's theme is "Flooding can happen, even during a drought." The annual multilingual floodplain mailer was	Ongoing Capability

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
			delivered to homes and businesses in FEMA-designated flood zones on December 10, and additional postcard mailings with flood awareness details are planned for distribution in mid-January 2022.	
<b>5.1 Use erosion and sediment control features that provide protection as required by local or state standards for all Valley Water construction activities.</b>				
Yes	Other, please specify	Medium / No	Erosion and sediment control features are incorporated in all projects submitted for regulatory agency approval in an annual Notice of Proposed Work (NPW) submitted each April 15th. Staff training in state-of-the-art erosion and sediment control measures was provided to Watershed staff April 18-23, 2022.	Ongoing Capability
<b>5.2 Mitigate landslide and debris flows to minimize damage to structure and function of Valley Water infrastructure.</b>				
Yes	Other, please specify	Medium / No	Valley Water is monitoring a known landslide area. Pipes crossing the landslide have been replaced with landslide-resistant pipes and structures; monitoring continues.	Ongoing Capability
<b>6.1 Continue to monitor the rate of groundwater pumping within the district, and coordinate groundwater pumping and increase groundwater recharge if subsidence begins to occur.</b>				
Yes	Other, please specify	High / No	While changes in the land surface have been observed due to several dry years, available data does not indicate evidence of permanent subsidence. To respond to the drought and minimize the risk of permanent subsidence, Valley Water board has declared a water shortage emergency (June 2021), purchased emergency water supplies, expanded conservation programs and rebates, and worked with water retailers and land use agencies to implement water use restrictions.	Ongoing Capability
<b>7.1 Develop and implement plans to protect key facilities within the sea-level rise hazard area as sea levels increase.</b>				
Yes	Other, please specify	Medium / No	USACE re-advertised the South San Francisco Bay Shoreline Project – Phase 1, Reaches 1-3 in January 2021. USACE awarded the construction contract to Maloney Odin JV and provided Notice to Proceed in August 2021. Onsite construction began in December 2021. Design and permitting of the Palo Alto Flood	Ongoing Capability

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
			Basin Tide Gate Structure Replacement Project continued. Advertisement of construction for this project is targeted for summer 2022 with onsite construction anticipated to begin September 2023.	
<b>7.2 Coordinate with Santa Clara County, ABAG, Bay Conservation and Development Commission, and other agencies to defend against and retreat from sea-level rise.</b>				
Yes	Other, please specify	Low / No	Staff has continued to participate in meetings and provide support for the Shoreline Phase II Feasibility Study (Economic Impact Areas 1-4). In September 2021, USACE received official approval for a total study budget of \$6M and a total study duration of approximately 6 years. Study team is working towards Tentatively Selected Plan Milestone anticipated for spring 2023.	Ongoing Capability
<b>8.1 Maintain existing levee inspection and repair program to address seismic vulnerabilities of levee systems.</b>				
Yes	Other, please specify	Medium / No	Valley Water performs regular inspections and repairs are made as required. Valley Water inspects facilities as identified through emergency work procedures following significant seismic events. Damage to levees is addressed as part of our regular annual maintenance work to reduce risk to infrastructure.	Ongoing Capability
<b>8.2 Secure funding to conduct necessary seismic strengthening work on Valley Water-owned dams as identified in seismic evaluations.</b>				
No	Other, please specify		This mitigation action has been discontinued as associated work is covered in measure 8.3.	Discontinued
<b>8.3 Replace or retrofit structures that are determined to be structurally deficient, including levees, dams, reservoirs, and tanks. Continue to analyze and identify needs for future upgrades. Evaluate, reinforce, and/or enhance Valley Water facilities to mitigate seismic risk.</b>				
Yes	Other, please specify	Medium / No	Seismic retrofit projects are underway at Anderson, Calero, and Guadalupe dams. Seismic improvements are underway at Almaden Dam. Other seismic evaluations are currently being performed at Coyote, Chesbro, Uvas, Lenihan, and Stevens Creek dams.	Ongoing Capability

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
<b>8.4 Conduct evaluations of Valley Water facilities (offices, ancillary structures) to determine seismic vulnerability.</b>				
Yes	Short Term (< 5 yrs.)	Low / No	There were no seismic evaluations of Valley Water facilities conducted in 2020.	In Progress
<b>8.5 Avoid siting of new infrastructure in areas of highest liquefaction, ground shaking, and/or fault rupture risk. If siting new infrastructure in these high-risk zones is unavoidable, include significant mitigation measures to reduce the vulnerability to earthquake hazards.</b>				
No	Other, please specify		This mitigation action has been discontinued as associated work is covered in measure 1.5.	Discontinued
<b>8.6 Replace seismically vulnerable sections of the Almaden Valley Pipeline.</b>				
Yes	Long Term (5+ yrs.)	Low / No	AVP Replacement – Planning Phase has started. AVP Inspection as part of 10-Year Design Phase has started and continues year to date.	In Progress
<b>9.1 Monitor trees and other large objects that may threaten nearby Valley Water infrastructure in high wind events, and maintain or reinforce as appropriate.</b>				
Yes	Other, please specify	Low / No	Valley Water conducts facility inspections. When threats are identified (including hazardous trees), work orders are submitted to mitigate the problem.	Ongoing Capability
<b>10.1 Frequently monitor the status of dry vegetation on Valley Water property and around Valley Water facilities in wildland and WUI zones, and conduct weed abatement and pesticide application activities as needed.</b>				
Yes	Other, please specify	Medium / No	Valley Water Complies with California Government Code section 51182, which requires the maintenance of a firebreak within 30 feet of occupied structures on its property by removing flammable vegetation or combustible growth. Weed abatement activities are performed March through December. Herbicide application to prevent weed growth is performed October through June. An enhanced fuel assessment/reduction policy is being considered for natural areas managed by Valley Water in light of recent droughts, climate change, public concerns regarding wildfire, and increased presence of unhoused people and invasive plant species in these areas.	Ongoing Capability

Action Taken?	Timeline	Priority / Changed?	Describe Actions Taken or Progress Made	Status
<b>10.2 Work with surrounding landowners to ensure adequate fire road access to Valley Water facilities.</b>				
No	Short Term (< 5 yrs.)	No	This mitigation action has been discontinued because Valley Water already has access to its facilities (buildings and infrastructure) and waterways. Additional access through private landowners is not needed.	Discontinued
<b>10.3 Identify Valley Water-owned waterways and water sources adjacent to any high-fire risk areas and prepare for increased turbidity as a result of vegetation loss and increased erosion. Conduct mitigation measures as appropriate.</b>				
No	Short Term (< 5 yrs.)	No	This mitigation action has been discontinued as there is no identifiable mitigation work that can be performed at this time.	Discontinued
<b>10.4 Design and implement mitigation measures to reduce turbidity in waterways and water sources near high-fire risk areas.</b>				
No	Short Term (< 5 yrs.)	No	This mitigation action has been discontinued because turbidity as a result from fires and vegetation loss that enter waterways will be addressed utilizing best management practices by Operations and Maintenance (same as day-to-day operations).	Discontinued

**Changes That May Impact Implementation of the Plan** During CY2021 the COVID-19 pandemic was prolonged; however, Valley Water continued performing critical essential work on all its mitigation strategies. There were no significant changes noted that had a profound impact on the implementation of the plan.

**Recommendations for Changes or Enhancements** Based on the development of this report that includes all the mitigation strategies provided by the internal mitigation owners, no additional new recommendations from CY2021 will be noted for future updates or revisions to the plan. This status may or may not change for the subsequent year(s). **Table 3** lists the new initiatives added this reporting period, and as stated, there are none to add for CY2021.

**Table 3. New Actions Plan Matrix**

Action Taken?	Timeline	Priority Changed	Describe Actions Taken or Progress Made	Status
<b>Santa Clara Valley Water District</b>				
<b>1.1 New action.</b>				
<b>1.2 New action.</b>				
<b>1.3 New action.</b>				

## **PUBLIC REVIEW NOTICE**

The contents of this report are considered to be for public knowledge and have been prepared for public disclosure. Copies of the report have been provided to the governing boards of all planning partners and to local media outlets as needed. The report is posted on the Valley Water website <https://www.valleywater.org/LHMP>. Any questions or comments regarding the contents of this report should be emailed to: [LHMP@Valleywater.org](mailto:LHMP@Valleywater.org).

## **ADDITIONAL COMMENTS**

Updates were made to the Valley Water 2017 Local Hazard Mitigation Plan List of Figures / maps as indicated below.

- Figure 5-2 Dam Failure Hazard Zones, page 45
- Figure 5-4 Drought Conditions (CA Drought Levels March 2021), page 53 (new)
- Figure 5-5 Flooding Hazard Zones, page 57
- Figure 5-9 Fault Rupture and Ground Shaking Hazard Zones, page 77
- Figure 5-11 Wildfire Hazard Zones, page 91
- Figure 5-12 Secondary Erosion Hazards Post Wildfire, page 93

## **ATTACHMENTS**

The work in CY2021 was accomplished in virtual fashion primarily as a result of prioritizing the safety of staff due to the continuous world pandemic and to a much lesser degree, a shortage of resources to administer a robust level of activity as in past years. As a result, attachments for agendas/meeting minutes are not available.

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# Valley Water

Clean Water • Healthy Environment • Flood Protection

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