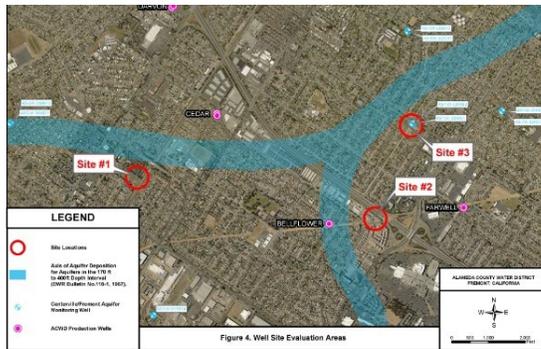
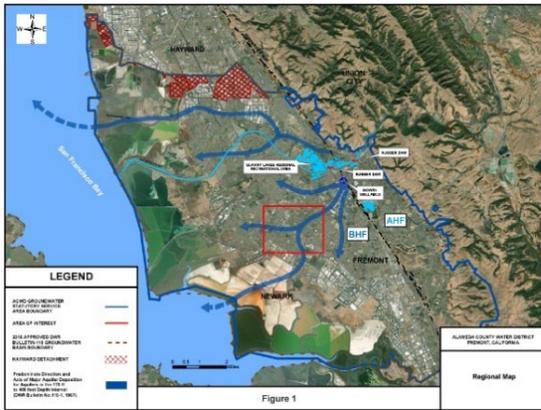


Niles Cone Groundwater Basin Extraction Well Site Evaluation Project

ALAMEDA COUNTY WATER DISTRICT PLANNING PROJECT



PROJECT COMPLETION DATE

September 30, 2022

PROJECT COSTS

Prop 1 GWGP Funds: \$613,048.50

Local Cost Share: \$613,048.50

TOTAL PROJECT COST: \$1,226,097

PROJECT PURPOSE

The purpose of the Project was to conduct a remedial investigation and feasibility study (RI/FS) to identify and evaluate alternatives to prevent migration of brackish water to ACWD's drinking water supply wells. Investigations were conducted at three locations (Sites 1, 2, and 3) to determine:

- Viability to extract brackish groundwater caused by saltwater intrusion
- Potential to engineer an efficient & long-lasting brackish water extraction system
- Potential to further reduce the concentration of brackish water in production wells that could be used as emergency water supply wells
- Potential to provide long-term protection of water supply wells from future saltwater intrusion
- Potential to provide long-term protection from water quality-related pumping restrictions at the Mowry Wellfield

PROJECT SCOPE

The Project scope included the following tasks:

- **Administrative:** Coordination, communication, and reporting to maintain the Project schedule and budget. Key deliverables: Monitoring and Reporting Plan, RI/FS Workplan, Quality Assurance Project Plan, RI/FS Report, and Final Project Report.
- **Planning, Design, Engineering, and Environmental:** Determining well locations, securing a drilling contractor, and completing permit processing activities.
- **Construction and Implementation:** Field activities, including mobilization, site preparation, drilling, lithologic and geophysical logging, soil and groundwater sampling, well installation and development, aquifer pumping tests, and well site evaluation area restoration to pre-construction conditions.
- **Monitoring and Performance:** Evaluation of data from groundwater and soil sampling and aquifer pumping tests, and incorporation of newly-installed monitoring wells into ACWD's semi-annual groundwater monitoring program.

Education and Outreach: The public was notified about the project during the contractor selection process and through notification letters delivered to residents and businesses located within 0.25 miles of each well site evaluation area. A Public Meeting describing the field activities was held on September 28, 2021.

BENEFITS

The desired benefits of a future Implementation Project are to:

- Prevent saltwater migration to the Mowry Wellfield by removing brackish water from the Centerville-Fremont Aquifer.
- Accelerate brackish water removal from the Centerville-Fremont Aquifer by extracting impacted groundwater and restoring the use of emergency water supply source wells.
- Reclaim aquifer storage by removing brackish groundwater from the groundwater basin.

Based on the results of the RI/FS, there is a clear indication that operating a groundwater extraction system at the Site 3 location would reduce the extent of the brackish water plume in the groundwater basin and protect the Mowry Wellfield from saltwater intrusion.

LESSONS LEARNED

- Verify draft bid specifications with subject matter experts and suppliers to identify potential material availability limitations (e.g., due to supply chain issues)
- Develop contingencies to accommodate potential well development difficulties
- Emphasize continued coordination and communication with all Project partners and stakeholders

Several key aspects of successful Project implementation include:

- Communication and coordination with the State Water Board, Project partners and stakeholders, and the public about Project progress and issues
- Inclusion of Project team staff with a breadth of field experience to ensure fluid decision-making and efficient use of Project expenses

NEXT STEPS

ACWD is seeking funding to construct a groundwater extraction system at Site 3 to remove brackish groundwater from the basin and protect ACWD's drinking water supply and, in conjunction with a future project, to convey the extracted groundwater to ACWD's Desalination Facility for use as potable drinking water in ACWD's water distribution system. The future project will supplement ACWD's existing water supply sources, increase ACWD's reliability and capacity, and decrease ACWD's dependence on other drinking water sources.

CONTACT

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ACKNOWLEDGEMENTS

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