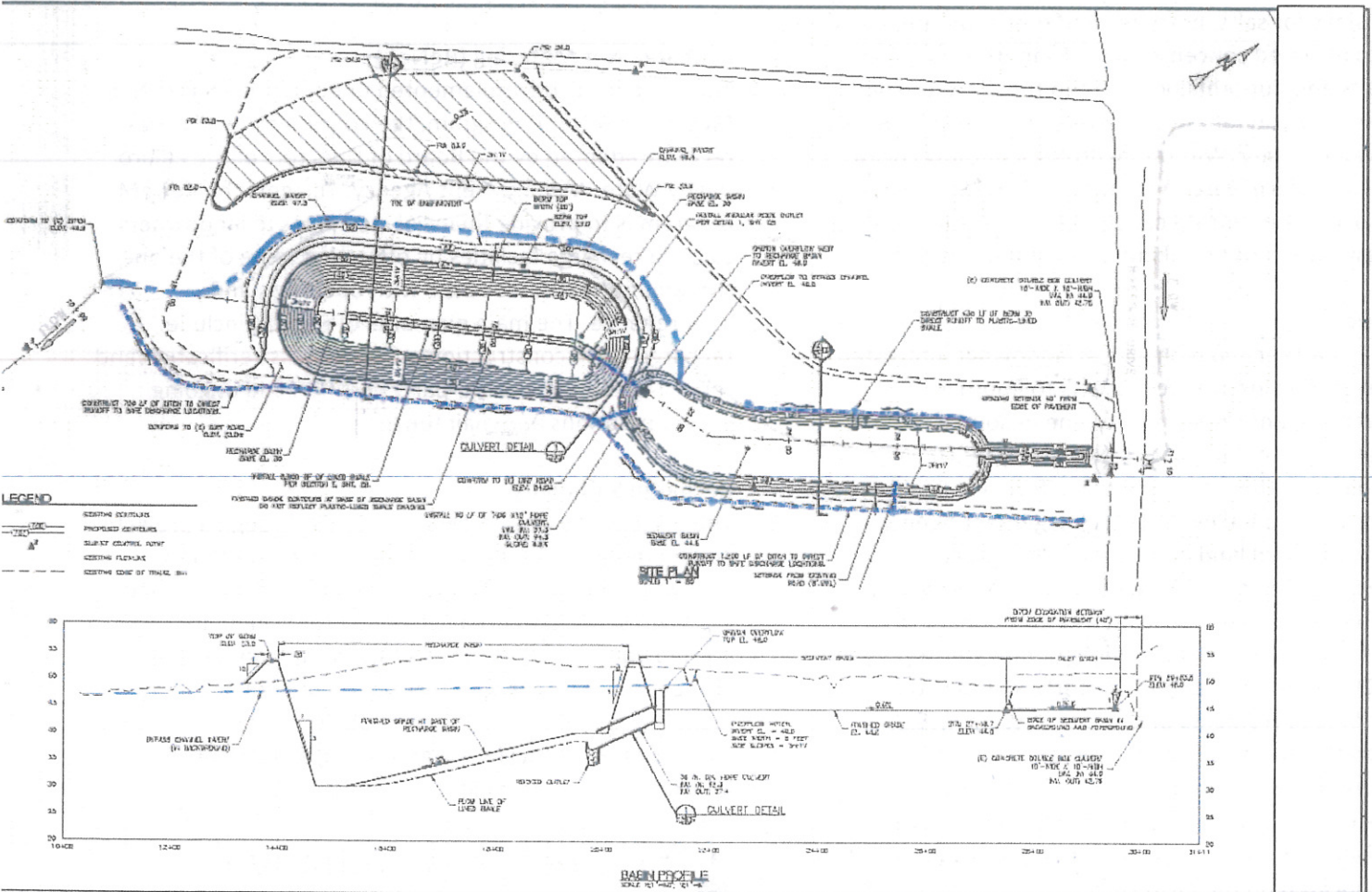


Pajaro Valley Managed Aquifer Recharge Project



Project Status:

- Designs funded by landowner
- Permits and implementation funding secured from the State Coastal Conservancy
- CEQA Mitigated Negative Declaration – County of Santa Cruz Adopted 4/26/2017
- Preliminary Grading Permit Application Approved – County of Santa Cruz 4/26/2017
- Final Grading Permit in process
- Expected Construction in the fall, 2017

Pajaro Valley Managed Aquifer Recharge Project

Issue Overview

Over the past several decades, groundwater pumping for agricultural and municipal use has led to an overdraft of the Pajaro Valley Groundwater Basin. Approximately 56,000 acre-feet of water is used from the Basin each year (AFY) to meet the needs of agriculture, households and commercial businesses. Nearly all of that water (~98 %) is supplied from groundwater, and overdraft is estimated at 12,000 AFY on average. Recent measurements indicate that groundwater elevations across the basin are below sea level, and seawater intrusion, which has been detected in coastal wells, is an immediate and direct threat to Pajaro Valley agriculture and ecosystem as well as to the drinking water supply for over 50,000 residents of the City of Watsonville. When aquifers are overdrafted, they lose connection to surface water and become terminal sinks for salts, nutrients and other contaminants, leading to elevated concentrations. Evapotranspiration leaves salts and nutrients behind, and these are washed into underlying aquifers. Seawater intrusion also impacts groundwater quality. Without hydrologic outflows from aquifers (to surface water and/or the ocean) the solutes build up over time. Nitrate concentrations in some areas of the basin are 2 – 3X drinking water standards.

The Project

Working in partnership with a local landowner interested in demonstrating innovative projects to improve groundwater quantity and quality, the Resource Conservation District of Santa Cruz County (RCD), in partnership with the University of California at Santa Cruz (UCSC), the Pajaro Valley Water Management Agency (PVWMA) and local landowners are in the process implementing pilot facilities to demonstrate Managed Aquifer Recharge (MAR) concept as a component of a strategy for long-term sustainable groundwater supply for over 28,000 acres of farmland, a nearly \$1B ag economy and over 50,000 residents of the City of Watsonville. Funded by the State Coastal Conservancy, the Pajaro Valley MAR project is sited on a parcel that collects stormwater runoff from an unnamed tributary to the Pajaro River that drains an approximately 2.4 square miles drainage located on the eastern end of the Pajaro Valley. The project will be managed to capture peak stormwater runoff flowing across the project site during the wet season (November

through April) for recharge to the groundwater basin.

Project Benefits

The Pajaro Valley Mar project will be built with the design capacity to recharge up to an estimated 350 acre-feet per year. Recent studies demonstrated the water quality benefit of MAR facilities as well, in particular nitrate removal as water infiltrates through soil. By enhancing high quality recharge and processing of solutes during infiltration, the project will help to improve water quality through dilution. Over time as the basin is recovered, reconnection of aquifers to surface water will reestablish outflow of water (and solutes) from the basin. We can also limit export of sediments and associated impacts on downstream aquatic systems and habitat (streams, wetlands, estuaries).

Recharge Net Metering (ReNeM)

The project will be implemented under the Recharge Net Metering (ReNeM) program, the concept for which was recently adopted by the Board of Directors of the Pajaro Valley Water Management Agency. The goal the ReNeM program is to provide financial incentives to landowners to build recharge facilities by offsetting some of the on-the-ground costs associated with operation and maintenance. The main elements of ReNeM include recharge basin construction, effectiveness verification and reporting through a third-party certifier, and ongoing basin operations and maintenance.

Recharge Suitability

The project site was, in part, identified through a project conducted by UCSC in partnership with the RCD and funded by the State Coastal Conservancy that identified the highest-suitable areas of Santa Cruz County for groundwater recharge. That analysis was conducted in two phases, with the first focused on quantifying and mapping spatial variations in suitability for infiltration and storage of excess surface water, using a geographic information system (GIS).

 **The Recharge Initiative**
Replenish • Recover • Restore
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