

Santa Cruz Heritage Project Hydrogeologic Study and Contaminant Transport Model

Tucson, Arizona

CLIENT

City of Tucson

HIGHLIGHTS

- High-profile project for long-term renewable water resource storage
- Close coordination with state regulators
- Developed and applied contaminant transport model to simulate groundwater quality impacts

Clear Creek Associates conducted a hydrogeologic study to evaluate the feasibility of a proposed in-channel managed aquifer recharge (MAR) project along the Santa Cruz River near downtown Tucson, Arizona. This was a high-profile project that was implemented for purposes of restoring perennial stream flow

to the river as an overall community benefit and as a means to conduct long-term storage of a renewable water resource. Significant challenges included a lack of site-specific data on infiltration rates for the river and the existence of numerous land uses of potential concern in the general vicinity, including closed landfills, leaking underground storage tanks (LUSTs), and state Superfund sites. By coordinating closely with state regulators and developing appropriate permit conditions and alert levels related to water level mounding, the project was successfully implemented. As part of the project, Clear Creek developed and applied a contaminant transport model to simulate impacts on groundwater quality, including the migration of PFAS, which was known to be present in small concentrations in the source water.



Photo Credit: March / April 2020 World Water