

CASE STUDY

California Tribal Water Reclamation Project

Location: Jamestown, California

HIGHLIGHTS

Upgraded existing facility to accommodate new WRF system.

Competed on schedule and on budget.

Met unique needs of the tribal site specifications.

CUSTOMIZED SOLUTION MODERNIZES FACILITY

Integrated Water Services (IWS) successfully delivered a design-build project for a Water Reclamation Facility (WRF) to replace an existing textile filter wastewater system at a casino operated by the Chicken Ranch Rancheria tribe. This project included all collection piping, treatment systems, building upgrades, site civil, and electrical installations. This case study highlights IWS's expertise in providing innovative site specific solutions.

CHALLENGES FACED

- **Extreme Terrain:** Installing the extensive drip irrigation system demanded deep, 11-foot excavations through challenging steep, rocky terrain with dense tree cover.
- **Operational Continuity:** Decommissioning the existing filter system and commissioning the new WRF had to be executed without interrupting the casino's daily operations.
- **Cost and Scope Management:** Optimize the project for cost-effectiveness, longevity, and efficiency, while adhering to a firm budget.

SOLUTIONS IMPLEMENTED

- **Integrated Team:** Collaborative effort between all parties utilizing a pre-construction constructibility review to streamline project approach and prevent conflicts.
- **Value Engineering:** Implemented cost-effective solutions to maximize longevity and efficiency while ensuring all functional requirements were met within budget.
- **Full System Design-Build:** Engineered and installed all components, including new collection piping, advanced treatment systems, electrical infrastructure, and structural building upgrades.



OUTCOME AND IMPACT

- **State-of-the-Art Treatment:** The outdated textile filter system was replaced with a new Water Reclamation Facility featuring a Fluidyne ISAM SBR (20,000 GPD, expandable to 40,000 GPD) and a Fluidyne tertiary filter with chlorine disinfection.
- **Exceptional Water Quality:** The new plant consistently treats wastewater to tertiary standards, resulting in a significant improvement in water quality.
- **Water Conservation:** All treated water is sustainably reused via a new 20,000+ foot, six-zone drip irrigation system, which conserves fresh water resources and reduces discharge into local waterways.
- **Technical Components:** Key installations included two 25,000-gallon steel storage tanks, a new masonry pump house, a complete building upgrade (new slab, insulation, paint), and fully integrated Fluidyne ISAM and separate irrigation control panels linked to the owner's SCADA system.



IWS worked with the project team to complete a constructibility review and add value engineering to the process. The Owners Instrumentation and Control Contractors included Jetco, Inc. and ICS Online, Inc. The project team exchanged ideas and project approach to add value and functionality to the project before breaking ground.

"IWS did a fantastic job for us. They helped to value engineer certain aspects of the project and complete our project on budget and on schedule. The IWS Superintendent was great to work with, very informative, and a great resource. We would highly recommend IWS for future work."

Craig Powell

Chicken Ranch Rancheria Indian Tribe



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