

CASE STUDY

Malibu Civic Center MBR Plant

Project Type: Municipalities / Water Reuse & Reclamation

Location: Malibu, California

HIGHLIGHTS

Designed for an initial flow of up to 188K GPD, with the capability to expand to 376K GPD.

Capacity to produce disinfected tertiary recycled water meeting Title 22 requirements.

Delivered the complete electrical scope necessary for plant operation on the complex MBR facility.

VEYRA COMPLETES MBR PLANT, PRODUCING TITLE 22 RECYCLED WATER

Veyra was a key team member on the \$24 million Malibu Civic Center recycled wastewater plant project for the City of Malibu Public Works Dept. The project's goal was to construct a state-of-the-art Membrane Bioreactor (MBR) treatment facility to service commercial businesses in the Civic Center area of Malibu, CA, and produce high-quality recycled water.

CHALLENGES FACED

- **Complex Scope of Work:** The project required the construction of a comprehensive wastewater plant featuring numerous components, including influent pump stations, headworks, bioreactors, membrane reactors, chemical feed systems, UV disinfection, and multiple specialized buildings (Headworks, Solids, Operations, etc.).
- **Need for Stringent Water Quality:** The facility had to be designed to meet Title 22 requirements for Disinfected Tertiary Recycled Water.
- **Extensive Electrical and Control Systems:** The electrical installation required over 33,000 linear feet of conduit and 60,000 linear feet of wire, along with a sophisticated control system to manage all plant functions and communicate with offsite lift stations.



SOLUTIONS IMPLEMENTED

- **MBR Treatment System:** A hollow-fiber MBR system was installed to perform biological treatment and membrane separation to meet regulatory standards. It had two process trains for current flow, with provisions to double capacity to 376,000 GPD via two future trains.
- **I&C Management:** Veyra executed the full electrical scope, including a standby generator, transformer, motor control centers, distribution panels, and 200 yd³ of duct bank encasement.
- **Control System Integration:** The control system used PLCs, operator and dedicated membrane software, and fiber optics to communicate with off-site lift stations.



OUTCOME AND IMPACT

- **Recycled Water:** The MBR plant was designed for an initial flow of up to 188,000 GPD, successfully meeting Title 22 requirements for disinfected tertiary recycled water that can be used to irrigate the property.
- **Effluent Management:** All excess clean treated effluent not reused in irrigation is directed to a deep well injection site where it will be safely dispersed into the Pacific Ocean.
- **Operational Readiness:** Veyra completed full start-up of the electrical and I&C systems, ensuring all components—from headworks to UV disinfection and odor control—were fully operational.

Veyra successfully delivered the comprehensive electrical and control systems for the Malibu Civic Center MBR plant. The facility's design and construction allow for reliable, high-volume production of recycled water, ensuring compliance with strict environmental regulations for the benefit of commercial businesses in the area.

