

CASE STUDY



Packaged Wastewater Treatment for Uneven Terrain

Modular design allows for an efficient wastewater treatment solution for two Nevada towns

- **Location:** Virginia City, Nevada
- **Client:** Storey County
- **Solution:** Packaged Wastewater Treatment
- **Technology:** Extended Aeration

Background

Storey County, Nevada, just southeast of Reno, needed to replace an outdated wastewater

treatment plant that serves the historic communities of Virginia City and Gold Hill.

Challenges

The new site was on the side of a hill, presenting challenges for the design of the plant and the orientation of its processes. Also, the new plant

area was entirely within a district on the National Register of Historic Places.

CASE STUDY • Packaged Wastewater Treatment for Uneven Terrain



Solutions

The original plant layout called for a conventional circular clarifier, which was impossible due to the uneven terrain. The final design included a customized, modular tank arrangement for aeration and to hold sludge. The equalization tank was separated and placed higher on the

hillside. The plant features a secondary clarifier and UV disinfection.

Separate equalization tanks were shipped to the site first and installed in time to handle increased wastewater flow due to a popular annual festival.

Results

The new treatment plant has an average daily flow of 200,000 GPD, and a maximum daily flow of 300,000 GPD. The plant occupies a smaller footprint and is more efficient than the old plant,

eliminating the threat of watershed pollution during floods. The Virginia City plant is designed to provide cost-effective service for years to come.