

Before



After



Case Study: Shadow Ridge

Since acquiring the Shadow Ridge wastewater facility, Eagle Ridge has implemented significant improvements to address chronic noncompliance and enhance wastewater treatment capabilities. The facility, originally a steel package plant, faced severe challenges prior to acquisition. It regularly violated limits for biochemical oxygen demand (BOD), total suspended solids (TSS), ammonia, and fecal coliform, with sample results as high as 185 mg/l for BOD, 59 mg/l for ammonia, and 260 mg/l for TSS. Additionally, the site received citations for visible accumulation of wastewater solids and cloudy effluent.

Operational deficiencies included inadequate treatment processes, resulting in solids accumulation within the aeration basin and the growth of nuisance vegetation. The clarifier failed to effectively remove solids from wastewater, contributing to ongoing issues with disinfection due to high solid content in the effluent.

Eagle Ridge initiated a comprehensive improvement plan for Shadow Ridge. This included the removal of accumulated solids and sludge from all treatment basins, addressing immediate operational challenges. The aeration treatment process underwent a complete overhaul, with a portion of the plant converted to Moving Bed Biofilm Reactor (MBBR) treatment. Essential infrastructure upgrades were carried out, including the replacement of diffusers, drop pipes, air headers, blowers, and the installation of a new power and control system.

Further enhancements included the installation of a sieve screen to remove nuisance solids from influent before treatment. The power and control systems were completely upgraded, and the former flow equalization tank was repurposed into a side stream digester. These improvements not only enhanced solids handling but also significantly reduced sludge hauling costs.

The results of these improvements are notable. Following the improvements, the facility consistently meets BOD limits, achieving an average result of only 5.8 mg/l in 2023, representing a 97% reduction compared to its poorest performance. Similarly, ammonia levels are now consistently within limits, with an average of only 0.33 mg/l, representing a 99% reduction. TSS levels have also improved dramatically, now averaging just 8.2 mg/l, a 96% reduction.

These initiatives reflect Eagle Ridge's commitment to operational excellence and environmental stewardship. By addressing longstanding compliance issues at Shadow Ridge, Eagle Ridge ensures reliable wastewater treatment services for the community, promoting sustainability and public health.