

U. S. FISH AND WILDLIFE SERVICE

Corn Creek Wastewater Treatment System & Fire Pond

Corn Creek Field Station, Nevada



Located about 20 miles north of Las Vegas, Nevada, the U.S. Fish & Wildlife Service's (FWS) Corn Creek Field Station provides primary access to the Desert National Wildlife Refuge, a 1.5 million acre expanse of the Mojave Desert. The Refuge is located in the center of a unique riparian and wetland

ecosystem that is fed by several deep aquifer springs. Corn Creek was home to Native Americans who were attracted to the lush plant and animal resources thriving around these springs for more than 5,000 years. The protection and preservation of the Refuge's native species and their habitats is central to its mission.

When the FWS planned to construct a new, 16,000-square-foot visitor center at Corn Creek to improve the interpretive and educational experience at the Refuge, they sought a wastewater management system that would be appropriate for such a unique and challenging setting. As a key member of the site design team, Biohabitats created a natural wastewater treatment and groundwater recharge system designed to handle over 2,000 gpd of wastewater from the site. Featuring constructed wetlands and an intermittent sand filter, the system also serves as a learning landscape, providing educational opportunities for visitors from the Las Vegas area to learn about the ecosystem dynamics at work in the Refuge. Biohabitats worked closely with the Client and design team to provide collection and equalization of effluent from the Visitor's Center and myriad existing facilities. Following treatment, water is

discharged by gravity through a shallow drain field, allowing the water to slowly percolate through the local soils before rejoining the groundwater.

Biohabitats also provided ecological consulting and design for the renovation of one of the existing springs pools for use as a fire protection pond. Working with FWS biologists and Corn Creek staff, Biohabitats provided pond bottom topography, edge conditions, liner, level control structure and fire system outlet screens, piping, and valves that enhanced conditions for a rare spring fish and met water quality and temperature goals while safely accommodating firefighting needs should a fire ever break out in the area. The Biohabitats team worked diligently to incorporate these wildly varying goals into a comprehensive pond design that still allows it to function as a visitor amenity – a cool water retreat in this extraordinary Mojave Desert landscape.

conservation planning
ecological restoration
regenerative design



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