

### DH Ranch Wetland Mitigation Reserve



**Location:** Edgar, Montana

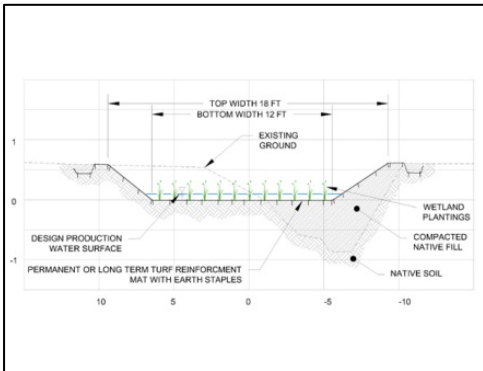
**Client:** Montana Department of Transportation

**Key Project Elements:**

- ❖ Initial Site Assessment & Feasibility Analysis
- ❖ Wetland Design & Alternatives Analysis
- ❖ Fish and Wildlife Resource Investigation
- ❖ Wetland Delineation & Functional Assessment
- ❖ Revegetation Design & Implementation

**Project Description:**

The purpose of this project was to create over 17 acres of palustrine emergent, wet meadow and scrub-shrub wetlands by utilizing unused irrigation water or wastewater from the end of the Orchard Canal. Through this innovative wetland creation effort, compensatory wetland banking credits were sold to Montana Department of Transportation (MDT) to offset roadway construction impacts within the Yellowstone River watershed located in Carbon County, Montana.



This project included a formal delineation of jurisdictional wetlands; a wetland functional assessment; a fish, wildlife and special resources investigation; a State of Montana cultural resource investigation; geo-technical, hydrologic, and water budget analyses; water rights negotiations; all regulatory permit requirements including CWA Section 404, CWA Section 310 and 318 Authorization; and, establishment of a perpetual conservation easement for the project site.

A series of low head berms were constructed to mimic 'riparian islands', spreading water laterally across a gently sloping terrace and outwash fan and impounding water into newly excavated swales and potholes. The remnant drain and lateral ditches were filled and depressions were excavated to a maximum depth of 2.5 feet with a wide range

of hydrologic / habitat conditions and gradients from small open water pockets to moist wetland meadow conditions. Additional project goals included the creation of more biological and physical complexity within a highly saline environment, supporting a patchwork of wetland habitats, controlled by topographical variability, and duration, depth and frequency of inundation.

Construction and revegetation was completed during the 2007 growing season and long-term monitoring has been conducted each year since. In the two years following construction, the site has developed into unique 'Alkali Sacaton Southern Plains Grassland' community type (defined by MT Natural Heritage Program), which is considered a limited and/or declining habitat vulnerable to extirpation in the state. The wetland and shallow open water habitat has attracted a number of ducks, shorebirds and migratory birds to the site.

