

CRADLEBAUGH BRIDGE STREAMBANK RESTORATION

CARSON VALLEY CONSERVATION DISTRICT



BEFORE



The stream bank has eroded due to the high water levels of the past years and has left a stretch of 600' with a 10'-15' vertical bank in its wake. This project was designed to minimize erosion, improve water quality, reestablish desirable vegetation, and improve river function within the project reach.





TEAMWORK

A team of dedicated heavy equipment operators, this district's bioengineering crew, and staff worked together to complete this project.

BEST MANAGEMENT PRACTICES

- Dust Control
- Fencing around sensitive resources
- Working in the channel during driest period
- Drill seeding disturbed areas
- Coir Fabric Mats & Logs
- Silt fencing & filtration waddles
- De-watering





DURING CONSTRUCTION

This project relies upon the success of structural based treatment, streambank shaping, as well as plant based treatments.





DURING CONSTRUCTION



BIOENGINEERING

- Stone Toe Trench
- Willow Poles
- Willow Fascines
- Willow Bundles
- Streambank Sloping
- Seeding
- Willow Stakes
- Coir Fabric Mats & Logs
- Live Plants







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PROJECT QUANTITIES

Native soil materials cut and filled cut materials = 2,232 CY fill materials = 1,644 1152 CY of net fill exported materials removed to mound house Upstream refusal trench in 500' of rock toe trench installed 1006 CY of class 300 through class 700 rocks placed Two swales installed and shaped 1000' of 9.6' COIR fabric installed 1000' of 6.6' COIR fabric installed 1000 of willow mats installed of 9.6' COIR fabric installed 575' of 6.6' COIR fabric installed 1000' of willow mats to installed 500' @ 4 willow & bio fascines installed Approximately 2500 willow poles installed 7,723 Coyote Willows 10 Yellow Willows 8 Golden Willows 16 Red Twig Dogwood 13 Wild Rose 7 Fremont Cottonwoods 20 Basin Wildrye 13 Creeping Wildrye 10 Western Wheatgrass

2 acres of upland floodplain drill seeded

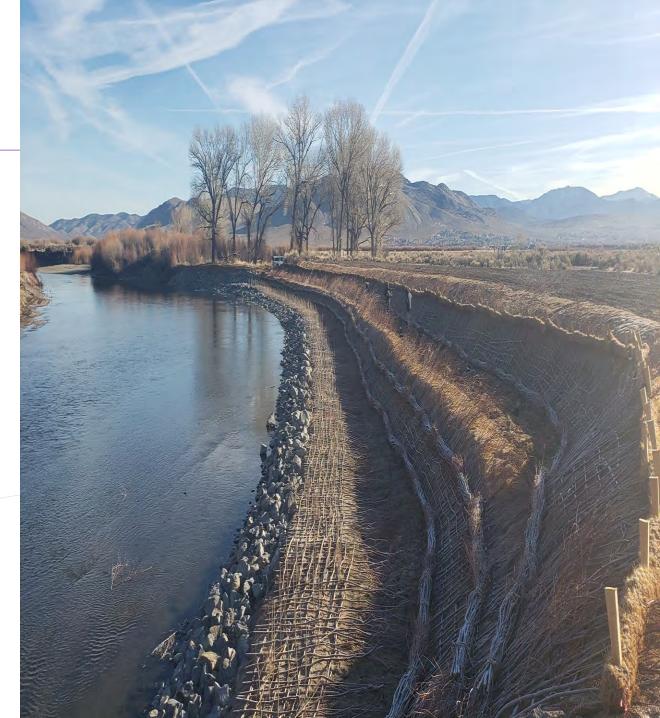
1 acre of riverbank broadcast seeded

ANNUAL MONITORING

Annual photo monitoring using GPS photo way-points.





















PROJECT PARTNERS

- CWSD
- CTWCD
- NDEP
- NDOW
- CVCD



THANK YOU



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