

Completion Documentation for Construction of the Wing Ditch in Pueblo Canyon

The project to construct a wing ditch along the active channel in Pueblo Canyon has been completed. The following discussion documents the construction of the wing ditch and stabilization of the construction site.

Construction

The wing ditch was constructed between August 12 and 14, 2009. It is located as planned in the "Interim Measure Work Plan to Mitigate Contaminated Sediment Transport in Los Alamos and Pueblo Canyons": immediately below the dirt road that crosses the Pueblo Canyon channel en route to the former Bayo Wastewater Treatment Plant. The wing ditch was excavated into the south bank and floodplain. The objective of the design is to divert a minimum of approximately 2 ft of stage out of the main channel and onto the floodplain during stormwater runoff. This design will leave approximately 2 ft of stage within the currently active channel during floods. The daily flow out of the new wastewater treatment plant outfall is not affected by the wing ditch.

The ditch is approximately 77 ft long and 10 ft wide with a 2% grade. It is lined with a geotextile fabric overlain by 6- to 12-in. cobbles. The downstream (east) side of the ditch is bermed to direct flow within the ditch towards the former (currently dry) channel on the floodplain. The former channel sits at an elevation approximately 2 ft above the current active channel. The berm is constructed from material excavated for the wing ditch.

Figures 1 through 3 show the site before and during construction.

Site Stabilization

The wing ditch is stabilized as described above. Excavated sediment was used for the berm on the downstream side of the wing ditch. The berm was draped with Enkamat, then seeded and hydromulched. The seeds in the excavated material were inherently incorporated into the berm and are expected to germinate and contribute to stabilization. Immediate stabilization is in place because all exposed soil was seeded and hydromulched.

Figures 4 and 5 show the current completed configuration of the wing ditch.



Figure 1 Wing ditch site before excavation



Figure 2 View looking upgradient along wing ditch towards existing channel. Initial excavation and surveying for grade.



Figure 3 View looking downgradient along wing ditch. Placement of geotextile and rock liner.



Figure 4 View looking upgradient along wing ditch after stabilization and hydromulching



Figure 5 View looking down Pueblo Canyon. Stabilized wing ditch berm and rock liner are visible. Hydromulched surface is visible in foreground. Main Pueblo Canyon channel is just to the left of area shown in the photo.