

Innovation and Resilience in Stormwater Management and Urban Stream Restoration in the Dever Metropolitan Area

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Sanderson Gulch drains an approximately 10 mi² watershed from the west side of Denver to the confluence with the South Platte River (SPR). Just prior to the confluence with SPR, the gulch is constricted by road and railroad crossings that caused regular overtopping, flooding more than 100 homes and businesses. Additionally, the site is adjacent to a former radium processing facility that resulted in radioactive soil contamination. The design solution for the flooding was to split the storm flows with baseflows up to the 10-year storm event staying on the surface and replacing the concrete lined channel originally in place with a higher functioning stream system that includes meanders and an active floodplain. Anything over the 10-year event was diverted into a series of box culverts that go below the road and railroad crossings allowing increased conveyance and removing the homes and businesses from the floodplain. The contaminated soils needed to be removed from the site, but one of the unique things about this project is that it contains a series of test plots comparing the use of wood chips as a soil amendment to benefit native species by modifying the soil carbon to nitrogen ratio. This approach uses a byproduct of urban forestry operations and utilizes the wood chips to improve soil health and native plant revegetation. This presentation will present data from four years of monitoring and share lessons learned.

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