

ACPA » Project Profile

The Schultz Creek Drainage Improvement Project

The Schultz Creek Drainage Improvements project was a critical flood mitigation effort in response to the devastating post-wildfire flooding that followed the 2022 Pipeline Fire. Located in Flagstaff, Arizona, the project protected the West Flagstaff community by installing 848 linear feet of 8' x 5' precast double-barrel reinforced concrete box culverts (RCBs) beneath US-180.

Project Schedule

Construction began in March 2024 and reached substantial completion by October 2024. The project's primary objective was to install 848 linear feet of 8' x 5' precast double-barrel reinforced concrete box culverts (RCBs) beneath US Highway 180 before the onset of the region's peak monsoon season. To meet this goal, Banicki implemented an aggressive construction schedule, working seven days a week in 12–14-hour shifts. The RCB installation milestone was achieved by July 13, 2024—well ahead of the critical deadline. Afterward, Banicki completed all final surface and environmental features, including inflow and outflow structures, headwalls, restoration, and hydroseeding, by October 15, 2024.

Construction Approach

Serving as the Construction Manager at Risk (CMAR), Banicki utilized a combination of Slide Rail and core-drilled soldier pile shoring systems to enable safe and efficient excavation within an extremely constrained 40-foot easement. This narrow corridor was bordered by two key structures—Fire Station 5 and the Grand Canyon Trust building. To minimize disruption while maintaining access and mobility, Banicki constructed temporary paved shoeflies along US-180, which allowed for uninterrupted two-way traffic throughout construction. These shoeflies also preserved access to the Flagstaff Urban Trail System (FUTS), supporting both vehicular and pedestrian traffic in one of Flagstaff's most traveled corridors.

Challenges and Solutions

The project required intensive utility coordination. Banicki proactively identified and resolved more than a dozen utility conflicts along the RCB alignment, including rerouting a 16-inch water main through solid rock and implementing bypass pumping for a sewer main. To address vertical and horizontal clearances, fiber and gas lines were also relocated or protected. Additionally, the team encountered unexpected continuous water flow from an unrecorded 48-inch corrugated metal storm drain during excavation. This storm drain, originally installed as a temporary measure, carried a constant flow of snowmelt.

Banicki addressed the issue by undercutting the excavation and installing #57 stone to stabilize the subgrade. Night crews and sump pumps were used to control water and maintain excavation stability, keeping the project on schedule.

Impact

This critical flood control infrastructure project significantly reduced the risk of flooding for the West Flagstaff community, which had faced repeated post-wildfire storm damage. The installation of the reinforced concrete box culverts enabled safe channeling of stormwater into the Rio de Flag. Despite tight site constraints, utility complexity, and a compressed timeline, the project was completed with zero safety incidents, no service interruptions, and minimal disruption to the community. The team's proactive communication, precise execution, and innovative construction strategies ensured continuous public access and delivered a resilient solution that will serve Flagstaff for years to come.

Project Profile

Location

Flagstaff, Arizona

Installation Completed

October 2024

Project Owner

Arizona Department of Transportation

Contractor

J. Banicki Construction, Inc.

ACPA Producer

Rinker Materials

Engineer/Designer

Ardurra

» Box Culvert, Flood Mitigation, Shoring Systems