

## **431.2 Cemetery Wash Drainage Improvements, Tohono O’odham San Xavier District**

**Location:** Tohono O’odham Nation, San Xavier District.

**Scope:** This project would construct four 10-foot wide by 6-foot high box culverts on Mission Road at Cemetery Wash, and five 10-foot wide by 6-foot high box culverts on San Xavier Road at Cemetery Wash, which would accommodate a 100-year storm to allow emergency vehicles to pass during large storm events, and for adequate clearance for maintenance.

**Benefits:** Phase I of this project will provide all-weather access for Emergency Vehicles (Police, Fire, and Ambulance), School Buses, Residents, & Tourists to cross both Cemetery Wash roads crossing safely during large storm events. Presently, approximately 900 of the 1,800 residents of the San Xavier District community are literally cut off every time a major rain event occurs. Flooding in Cemetery Wash prevents Emergency Vehicles (Police, Fire, Ambulance) from crossing the at-grade crossings over Mission Road and San Xavier Road, posing a grave threat to our citizens. Emergency vehicles are often unable to respond to calls during floods. Phase II of this project will construct approximately 2100 lineal feet of levee along Cemetery Wash, to collect and convey storm waters into constructed channels downstream of San Xavier Road, which ultimately drain into the Santa Cruz River. Pima County Flood Control staff estimates that the project mitigates flooding for a total of 70 homes, 30 in the District and 40 in unincorporated Pima County.

**Total Cost Estimate for Phase I & Phase II:** \$4,000,000

**Bond Funding Estimate for Phase I:** \$2,000,000

**Other Funding Estimate:** \$2,000,000 - The San Xavier District has worked with the Bureau of Reclamation (approximately \$100,000 worth of assistance to date) on a preliminary design and cost estimate since 2010, and is anticipating additional Bureau of Reclamation assistance to complete the design. Flood hazard mapping has been completed in the project area by Tetra Tech under Indian Health Service funding (\$131,665 worth of assistance) which also supports the Cemetery Wash drainage improvements. The Bureau of Reclamation has completed a preliminary jurisdictional delineation in preparation for a US Army Corps of Engineers 404 permit for the proposed drainage improvements. San Xavier District has secured access to a source of rip-rap from ASARCO to line the berms and dikes, which could save up to 30 percent of the riprap costs.

**Total Cost Estimate by Major Task:** \$500,000 for planning and design, \$1,500,000 for construction

**Implementation Periods:** 2

**Project Schedule by Major Task:** Planning and design at 12 months, construction at 12-18 months.

**Project Manager:** Bureau of Reclamation (Project requested by Tohono O’odham Nation San Xavier District)

**Operator:** Pima County Regional Flood Control District

**Future Operating and Maintenance Costs:** Estimated annual cost of \$25,000.

**Regional Benefits:** Provides direct flood relief for residents of both unincorporated Pima County and the San Xavier District. In addition, the project will result in all-weather access to area residents and emergency vehicles.