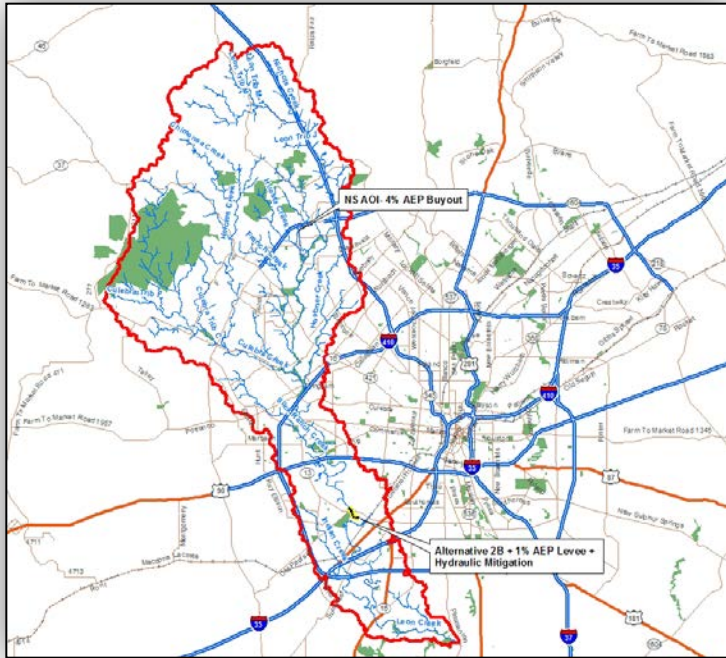


Leon Creek Flood Risk Management Project San Antonio, Texas 27 March 2014



ABSTRACT: Leon Creek is an important riverine system located on the western side of San Antonio in Bexar County Texas. The high flood risk within the watershed is generally associated with infrequent, high-intensity rainfall events that result in extremely rapid but relatively short-duration flood peaks and high velocity stream flows. In May 2013, rainfall amounts of 10 to 15 inches were received in the upper portions of the Leon Creek watershed in just over 12 hours. Runoff from this event created a peak

flood elevation at the Leon Creek/ I-35 gage of 27 feet, more than 12 feet over flood stage. Leon Creek flood flows inundated the Jet Engine Test Facility at Port San Antonio, a large industrial complex at the site of the former Kelly Air Force Base, with almost seven feet of floodwater. Flood damages within the watershed are estimated at approximately \$13,834,000 annually (FY 2014 dollars).

The Leon Creek Interim Feasibility Study examined an array of alternatives to reduce flood risks. The Recommended Plan provides for construction of an approximately 3,700-foot levee designed to protect against the one percent annual exceedance probability (AEP) event for the Jet Engine Test Cell Facility, located in what is identified in the report as Area of Interest-2, near the downstream end of the watershed. The structural plan also includes



approximately 2,850 linear feet of channelization immediately downstream of the levee to mitigate for slight rises in water surface elevations caused by the levee. In order to be self-mitigating in terms of aquatic impacts, the channel design incorporates natural design parameters, including in-channel habitat components, and 15.75 acres of riparian vegetation. The Recommended Plan also includes flood risk reduction measures in a second area of interest (AOI-4) through the permanent evacuation of 4 single-family homes and 32 townhomes located within the four percent AEP floodplain. The Recommended Plan results in a \$2,143,000 reduction in Equivalent Annual Damages.

The total project first cost for the Recommended Plan is estimated at \$28,175,000 and provides total annual net benefits of \$859,000 with a benefit-to-cost ratio of 1.7-to-1, evaluated at the FY 2014 Federal Discount rate of 3.5%. The San Antonio River Authority is identified as the non-Federal sponsor for implementation of the project. Federal participation in the project is estimated at \$18,314,000 or 65 percent of the total project cost, with the Non-Federal participation estimated at \$9,861,000 or 35 percent of the total project cost.

REPORT DOCUMENTATION: Pertinent documentation on the project, the results of the CWRB, and subsequent Washington-Level Review Actions, are linked below:

- CWRB Agenda
- [Project Map/Placemat](#)
- [Project Summary](#)
- [CWRB Briefing Slides](#)
- [CWRB Lessons Learned](#)
- CWRB Meeting Record
- State & Agency Review Comment Letters
- Documentation of Review Findings
- Signed Chief of Engineers Report
- Advance Copy to Congressional Committees
- ASA(CW) Memo to OMB
- OMB Response
- ASA(CW) Transmittal to Congress
- Signed Record of Decision
- Authorization

ADDITIONAL INFORMATION:

[Southwestern Division](#)

[Fort Worth District](#)