

**GENERAL REEVALUATION REPORT  
AND  
INTEGRATED  
ENVIRONMENTAL IMPACT STATEMENT**

**SYLLABUS**

**SUMMARY**

This General Reevaluation Report presents the results of investigations conducted to identify water and water related land resource needs of the Dallas Floodway Extension floodplain within the Trinity River Basin in the city limits of Dallas, Texas. The report is a comprehensive reevaluation of an authorized project and of the current flood control, environmental restoration, and recreation needs. The Authorized Plan was one of five local flood protection projects authorized for construction by Section 301 of the Rivers and Harbors Act (Public Law 89-298), approved on October 12, 1965, as part of a basinwide plan of improvement for the Trinity River and Tributaries, Texas. The authorized plan of improvement consisted of a combination flood control channel and floodway levees which would provide a Standard Project Flood (SPF) level of protection with a design flow capacity of 270,000 cubic feet per second. The plan consisted of a 22-mile levee and floodway system with a 9.1 mile residual channel along the Trinity River, 4.1 miles of channel improvements along White Rock Creek, and 5.4 miles of channel improvements to divert Five Mile Creek.

In accordance with 33 CFR Parts 230 and 325 (ER200-2-2), "Environmental Quality; Procedures for Implementing the National Environmental Policy Act (NEPA)," dated 3 February 1988, the Environmental Impact Statement is integrated into this report. These studies were conducted under the authority of Section 301 of the Rivers and Harbors Act of 1965.

Historic flooding and damages were investigated and details of their effects are included in this report. The project study area extended along the Trinity River from the end of the existing Dallas Floodway to the north and extending southwest to the confluence of Five Mile Creek, a distance of approximately 9.5 miles. The entire area experienced severe property damages in May 1989 and May 1990 flood events. A total of 2,550 structures are located within the existing hydrologic condition Standard Project Floodplain of the study area downstream of the existing Dallas Floodway. Based on October 1998 prices, these structures are estimated to sustain equivalent annual damages of approximately \$6.8 million. In addition, over 10,500 structures are located within the existing Standard Project Floodplain of the existing Dallas Floodway just upstream of the primary study area. Based on October 1998 prices, these structures are estimated to sustain equivalent annual damages of approximately \$13.6 million.

A wide range of structural and non-structural flood control measures evolved from the analysis of available economic, environmental, engineering, and social data during the course of this study. Non-structural alternatives included flood proofing, relocation, and permanent evacuation. The structural alternatives analyzed during the preliminary screening included channelization, clearing and grubbing, detention dams, swales, levees and combination plans. Additionally, several variations of the final concept were analyzed to insure that the solution was properly located and sized to provide the highest net annual benefits.

The construction of two 1,200-foot bottom width swales were found to produce the greatest net benefits. The proposed swales, extending from upstream at the end of the existing Dallas Floodway downstream to approximately 2,000 feet below Loop 12, are separated at Interstate Highway (IH) 45. This plan was identified as the National Economic Development (NED) Plan.

Public opposition to the environmental impacts which the NED Plan would cause to the forested areas along the Trinity River prompted the city to request investigation of less environmentally detrimental alternatives. The Chain of Wetlands Plan emerged as the initial Locally

Preferred Plan (LPP), and was formally adopted by the Dallas City Council on August 28, 1996, with the caveat that the addition of levees to the plan would be further investigated. This plan included smaller swales, located as far west of the river as engineeringly and economically feasible to avoid the most pristine bottomland hardwood areas closer to the river, and included excavated wetlands and vegetative plantings added as environmental restoration features within the footprint of the swales. Recreation facilities compatible with the regional recreation master plan were added to this plan.

A comparative analysis between the NED Plan and the Chain of Wetlands Plan showed that the chain of wetlands would provide fewer net benefits than the NED Plan, but would also have a lower estimated first cost. From an environmental standpoint, the NED Plan would require acquisition of approximately 3,200 acres for mitigation, while the chain of wetlands would require only about 650 acres of mitigation. Based on these findings, and on the expected difficulty in implementing the NED Plan from a public acceptability standpoint, the chain of wetlands was designated as the first increment of the Federally Supportable Plan, in lieu of the NED Plan. The Cadillac Heights and Lamar levees were then investigated for possible inclusion in the Federally Supportable Plan.

The Chain of Wetlands Plus Levees Plan, which included SPF levees protecting the Lamar and Cadillac Heights areas, in addition to the features of the Chain of Wetlands Plan, emerged to meet the needs of the local sponsor, providing much needed flood protection to the neighborhoods within the study area comparable to the protection provided to the Central Business District by the existing Dallas Floodway. This plan was adopted as the final LPP by the Dallas City Council on March 26, 1997. Recreation facilities were also added to this plan.

Congressional legislation, passed in October 1996, in the form of the Water Resources Development Act (WRDA) of 1996, provided for credit toward the non-Federal share of the total project costs for the advanced construction of the portions of the Central Wastewater Treatment Plant Levee and the Rochester Park Levee deemed compatible with the authorized project. These non-Federal levees were constructed by the city following the devastating floods of 1989 and 1990. The total cost of this construction was approximately \$27.0 million; however, the portion deemed compatible with the Recommended Plan was estimated at approximately \$23.1 million. Of this amount, approximately \$0.9 million was spent for lands, easement, rights-of-way and disposal areas (LERRD), which would be creditable to the sponsor as part of the overall LERRD requirements. Therefore, a maximum of approximately \$22.2 million was creditable to the sponsor as compatible construction costs under the provisions of WRDA 1996.

In the April 1998 draft of this report, the Federally Supportable Plan (FSP) was identified as a plan that, except for the levee protecting the Cadillac Heights neighborhood, would provide a Standard Project Flood (SPF) level of protection at a high degree of reliability. In this plan, the Cadillac Heights Levee would only provide protection from the flood that would have a 1.0 percent chance of exceedance in any one year, with a 34.0 percent reliability. Upon further analysis, it was determined that the FSP is that plan that provides SPF protection for the entire Dallas Floodway Extension project for the following reasons. First, the alternative levee for the Cadillac Heights neighborhood would not meet the Federal Emergency Management Agency standards for protecting the area from a flood that would have a 1.0 percent chance of exceedance in any one year, nor would it provide an acceptable level of reliability, particularly when compared with other project elements. Second, the alternative levee for Cadillac Heights would allow continued damages in this area from major, although infrequent floods (greater than the flood that would have a 1.0 percent chance of exceedance in any one year), due to the construction of other project levees. Finally, Congress has already authorized the project, including the Cadillac Heights Levee, at a SPF level of protection. For the reasons noted above, the project providing a consistent SPF level of protection is the Federally Supportable Plan, and is therefore the Recommended Plan. The report has been modified to reflect this decision-making process as follows: