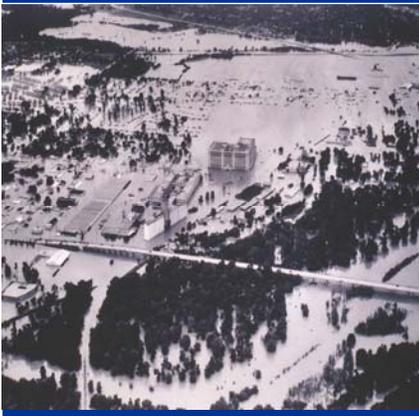


Upper Trinity River Central City Fort Worth, Texas

Final Supplement No. 1
to the Final
Environmental Impact
Statement



Prepared by:
U.S. Army Corps of Engineers
Fort Worth District



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Rendering Image courtesy of CDM



Bypass Channel

As stated previously, a variety of technical studies were conducted beginning in 2003 to determine the feasibility of bypass channel design alternatives. Based on these technical studies, and subsequent design workshops, the bypass channel configurations were narrowed to three general alignments, identified as Alternative A, Alternative B, and the Community Based Alternative alignment.

Alternative Alignment A

The general alignment of Alternative A is shown on Figure 3 - 10. In this alternative, the bypass channel would begin on the Clear Fork between Seventh Street and Henderson Street and traverse northwesterly to the western side of the existing Fort Worth and Western (FW&W) Railroad right-of-way following the current route of the railroad to just east of Main Street. At this point, the channel would continue northeasterly to merge with the West Fork of the Trinity River upstream of the Northside Drive Bridge. In this alternative, the bypass channel would be approximately 9,540 feet in length and would result in a project interior of approximately 440 acres. This alignment reasonably maximizes the project's urban revitalization objective, but would require relocation of the FW&W Railroad and the acquisition of all or part of approximately 200 properties.

Alternative Alignment B

The general alignment of Alternative B is shown on Figure 3 - 10. In this alternative, the bypass channel would begin on the Clear Fork just downstream of Henderson Street, traverse northerly, parallel to the existing eastern right-of-way of the FW&W Railroad until reaching Calhoun Street, then continue to the northeast to intersect with the West Fork, further upstream of Northside Drive Bridge. This alternative would be approximately 5,340 feet in length, would result in a project interior of approximately 275 acres, and would not require relocation of the FW&W Railroad. This alignment would require acquisition of all or part of 62 properties.

Community Based Alternative Alignment

Alternative Alignments A and B were both portrayed in TRV: Evaluation of the Trinity River Floodway Channel Realignment, published in April 2003, which identified Alignment A as the preferred alignment. The Community Based Alternative Alignment built upon characteristics from both Alternatives A and B, and was further refined during stakeholder/public and design team workshops in late 2003 and early 2004. This alternative was developed to convey the Standard Project Flood (SPF) without raising water levels, while addressing various project constraints. The constraints affecting the bypass channel alignment were identified by various sources, (Urban design team, USACE, and the City of Fort Worth) and were evaluated and addressed through an iterative process during development of this alternative alignment. The major constraints included:

- Relocation or construction activity negatively impacting the FW&W Railroad or its right-of-way should be avoided or minimized;
- The bypass channel should be constructed between Seventh Street on the Clear Fork and Northside Drive on the West Fork such that neither of these bridges would need to be removed;

- The channel should be built with a “hard” edge on the east bank and of natural material on the west bank. The “hard” edge should be built of concrete to support walkways and urban landscape features;
- Channel structures that would impede water craft passage should be avoided;
- The design should avoid the physical modification of the Ellis Pecan Building and minimize the impacts to other important historic structures to the extent practicable;
- The major downtown stormwater outfall located south of Radio Shack should discharge into the bypass channel;
- Relocation of the large diameter sanitary sewer interceptor near West Fifth Street and Greenleaf should be avoided; and
- The channel bottom at the upstream end must match that of the Clear Fork where they intersect. As the bypass channel crosses the West Fork upstream of the existing confluence, the channel bottoms should also match.

Based on these constraints, a series of variations for bypass channel alignments A & B were evaluated. These alternatives differed in terms of channel location, channel dimensions, hydraulics, edge treatments, and degree of impact on adjacent properties. The Community Based Alternative alignment for the bypass channel, shown in Figure 3 - 11, was determined to be the most desirable compromise between the urban revitalization objective and the project’s physical and hydraulic constraints.

The channel configuration selected as the Community Based Alternative alignment would be 8,420 feet long with a bottom slope of approximately 0.18 percent. The bottom profile would meet the grade of the Clear Fork and upstream West Fork crossing. This configuration would result in a project interior of approximately 327 acres, and would not require relocation of the FW&W Railroad. This alignment would require acquisition of all or part of 149 private properties.

The bypass channel would function in two segments; the upper bypass would carry flow from only the Clear Fork, while the lower bypass would carry the combined flow of the Clear Fork and Upper West Fork. The channel would pass the SPF discharge with the required four feet of freeboard. The Upper Bypass would be approximately 290 feet wide while the lower bypass would be generally designed to be 320 feet wide. The Upper Bypass segment would start approximately 940 feet north of the West Seventh Street Bridge and proceed northeast until it intersects the confluence with the West Fork Trinity River east of the existing FW&W Railroad Bridge.

The horizontal alignment from White Settlement Road until the confluence with the West Fork would be controlled primarily by right-of-way constraints to the northwest by the FW&W Railroad. The horizontal alignment (on the lower segment) would be generally controlled by the proposed bridge crossing of Main Street and the FW&W Railroad right-of-way to the northwest. The bypass channel alignment would maintain the existing at-grade street crossing of Main Street and the FW&W Railroad in order to avoid impacting the Ellis Pecan Building, which is eligible for listing on the NRHP.

As discussed in the previous section regarding urban design elements of the Community Based Alternative, the bypass channel would include a hard edge on the east side and a soft edge on the west side. This hard edge would contain a series of tiered retaining walls, multiple walkways, and landscape areas.

The lower interior retaining wall would be located adjacent to the base flow channel, with a top of wall elevation of approximately 530 feet NGVD. Immediately adjacent and parallel to the lower interior wall would be a walkway. The lower walkway would allow pedestrian access to the "park-like" environment of the bypass channel. Access to this lower walkway would be provided at various entry points by means of a combination of stairs and Americans with Disabilities Act (ADA) compliant ramps.

The remainder of the grade differential from the lower interior wall and walkway to an upper interior wall would be accomplished with a series of terraced retaining walls. The series of interior retaining walls would raise the grade to an elevation ranging from 545 to 552 feet. At this elevation, the channel would pass the SPF discharge with the required four feet of freeboard. The height of retaining walls on the hard edge would vary along the length of the bypass channel, but would be designed with three walls, each varying in height from 5-10 feet. Landscape planters and other landscaping options would be considered to enhance the tiered walls and walkways.

The soft (western) edge of the bypass channel would incorporate an earthen levee designed to be "park-like" or natural while providing adequate side slope erosion protection. Unlike the existing levee/channel floodway system, the bypass channel associated with the Community Based Alternative alignment would be sized to allow for the incorporation of natural vegetation, greatly enhancing the visual and environmental aspects of the channel. The soft edge would contain recreational trails, vegetation, and access for maintenance and emergency vehicles on both the top and bottom of the levee. A 20-foot wide recreational trail would be located approximately 5-feet above the normal base flow water surface and comply with ADA requirements. The recreational trail would allow bikers, walkers, and roller-bladers to access the "park-like" area. Portions of the recreational trail could also be used for equestrian use. A second trail would be provided on the top of the levee and this recreational trail could also be used for emergencies and maintenance as necessary.

Samuels Avenue Dam

In order to achieve the urban design objectives, a channel dam would be needed to maintain water levels in the project interior at a relatively constant normal water surface elevation of approximately 525 NGVD. The dam also must have the capability to lower the crest elevation to allow the passage of flood flows.

Location

A key project goal identified during the TRV planning process for the Central City segment is to enhance linkages to neighborhoods and districts via water. Navigability throughout the Central City area to connect Downtown to the Stockyards, the Cultural District, and the Rockwood Park area is also desired. To meet this project objective of navigability and to create desired neighborhood linkages, dam siting considerations were limited to locations downstream of the confluence of Marine Creek in the West Fort of the Trinity River. The initial dam location identified in the TRV Master