

CECW-PC

10 October 1997

MEMORANDUM FOR Commander, Southwestern Division

SUBJECT: Guidance for Implementing Section 575, Harris County, Texas, of the Water Resources Development Act of 1996

The subject guidance is provided in the enclosure for your implementation.

FOR THE COMMANDER:

Enclosure

*/Signed/*

G. EDWARD DICKEY  
Chief, Planning Division  
Directorate of Civil Works

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DEPARTMENT OF THE ARMY

U.S. Army Corps of Engineers  
WASHINGTON, D.C. 20314-1000

REPLY TO  
ATTENTION OF:

CECW-PC

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G. EDWARD DICKEY  
Chief, Planning Division  
Directorate of Civil Works

**CECW-PC**  
**GUIDANCE FOR IMPLEMENTING CERTAIN PROVISIONS OF THE WATER RESOURCES DEVELOPMENT ACT OF 1996**

**SECTION:** 575 Harris County, Texas

**CITATION:** (a) **IN GENERAL.**-During any evaluation of economic benefits and costs for projects set forth in subsection (b) that occurs after the date of the enactment of this Act, the Secretary shall not consider flood control works constructed by non-Federal interests within the drainage area of such projects prior to the date of such evaluation in the determination of conditions existing prior to construction of the project.

(b) **SPECIFIC PROJECTS.**-The projects to which subsection (a) apply are-

- (1) the project for flood control, Buffalo Bayou Basin, Texas, authorized by section 203 of the Flood Control Act of 1954 (68 Stat. 1258);
- (2) the project for flood control, Buffalo Bayou and tributaries, Texas, authorized by section 101(a) of the Water Resources Development Act of 1990 (104 Stat. 4610); and
- (3) the project for flood control, Cypress Creek, Texas, authorized by section 3(a)(13) of the Water Resources Development Act of 1988 (102 Stat. 4014).

**SYNOPSIS:** The Corps of Engineers 1989 feasibility report for Buffalo Bayou accounted for future project development by non-Federal interests and indicated that non-Federal development would not affect the Federal plan formulation and would increase the level of protection provided by the Corps projects. The sponsor, Harris County Flood Control District (HCFCD,) has planned and started construction of a series of detention basin, levee improvement and channel modification projects to enhance the level of flood protection to be provided by authorized, but as yet not completed, Corps projects. Because these facilities are not specifically authorized by Congress as part of the Corps projects, HCFCD fears that their construction will diminish the economic feasibility of the Corps projects in ongoing and future analyses.

The Conference Report on H.R. 3816, Energy and Water Development Appropriations Act, 1997, provides \$1,110,000 for Brays Bayou studies, \$860,000 for Greens Bayou studies, and \$400,000 for Cypress Creek studies. Brays Bayou and Greens Bayou are tributaries of Buffalo Bayou.

The Brays Bayou project was developed as part of the comprehensive flood control plan for Buffalo Bayou. The Buffalo Bayou Feasibility Report and EIS were approved in 1989. The authorized project consists of three miles of channel improvements, three flood detention basins, seven miles of stream diversion and various recreation features at an estimated total cost of \$330 million (October 1995 price level). The project consists of two separable elements. A Project Design Memorandum (PDM) for the detention element was initiated in September 1995. A General Reevaluation Report (GRR), initiated in September 1995 and scheduled for completion in August 1998, will address alternatives to the diversion element. FY 1997 funds will be used to complete the PDM for detention facilities, continue the GRR, and continue other PED efforts. HCFCD has initiated the construction of two detention basins in the Brays Bayou basin. One has just been started and the other is half-completed. Both are part of the

authorized project. HCFCD may consider constructing other parts of the authorized project itself in the future.

The authorized Greens Bayou project consists of 25 miles of channel improvements, 14 miles of selective clearing, acquisition of flood-prone structures, and four flood detention basins at an estimated cost of \$228 million (October 1995 price level). A GRR was initiated in 1996 to reformulate the project. FY 1997 funds will be used to continue the GRR. The highway department and others have used borrow materials from a site that will eventually become a detention basin. This detention basin will not be part of the authorized project.

The authorized Cypress Creek project consists of enlarging 29.4 miles of channel improvements, floodplain management, recreation features, and 885 acres of habitat creation/management at an estimated cost of \$146 million (October 1995 price level). A GRR initiated in 1994 has reformulated the project. The economic analyses supporting the GRR were completed prior to enactment of WRDA 96, therefore Section 575 does not apply to this project reevaluation and these economic analyses were performed without the Section 575 requirements. The draft GRR was submitted for policy compliance review in April 1997. The final GRR is scheduled for completion in December 1997. HCFCD has constructed a levee and completed channelization work in the Cypress Creek basin. Neither is part of the authorized project. HCFCD has no current plans to construct detention basins in the Cypress Creek basin.

Section 575 states that during any evaluation of economic benefits and costs for the specified projects after 12 October 1996, flood control works previously constructed by non-Federal interests will not be included in the determination of conditions existing prior to construction. The House Report 104-695 on WRDA 96 stated, "The intent of this provision is to not jeopardize the economic viability of the specified projects simply because non-Federal sponsors have demonstrated initiative in making advance drainage improvements." Non-Federal interests could conceivably make investment decisions in local projects once they perceive that the Corps has selected a plan for further development. This perception could occur when the district engineer releases a draft feasibility report or similar level decision document for public and agency review. A public hearing was held on 20 June 1950 regarding a review report on a survey of the Houston Ship Channel and Buffalo Bayou, Texas. This led to the 1954 authorization of the Buffalo Bayou project. This predates the public documents that led to the authorization of the Buffalo Bayou and Tributaries project in 1990. The draft Interim Report on Cypress Creek, San Jacinto River and Tributaries, Texas, was released for public and agency review in October, 1983. This led to the 1988 authorization of the Cypress Creek project. Subsequent to the public release of these documents, the sponsor has developed some features of the authorized projects along with additional features intended to further increase the level of protection.

To meet the intent of the legislation, ongoing and future reevaluation studies of the specified authorized Federal projects will need to exclude the non-Federal flood control works completed after the district engineer released a draft feasibility report or similar level decision document for public and agency review, and completed before the economic reevaluation.

These local projects should be excluded from both the "without project" conditions and the "with project" conditions for the various alternatives considered in detail. Excluding the completed

non-Federal flood control works from the "without project" conditions is required directly by Section 575. Excluding the completed non-Federal flood control works from the "with project" conditions is necessary to ensure that the impacts of the non-Federal works do not affect the economic and cost evaluations of the various alternatives. Since the selection of the recommended plan is largely dependent on the economic evaluations of the alternatives, the selection of the recommended plan must be based on these analyses which fully exclude the completed non-Federal flood control works. It is anticipated that hydrologic and economic analyses will be needed to simulate both the "with project" and "without project" conditions that exclude the completed non-Federal works.

The above procedure ensures that the completed non-Federal flood control works do not affect the plan selection, but it could conceivably result in a recommended plan that is larger and less efficient than one that would be formulated under normal procedures. It could also result in a project that provides greater protection than the supporting analyses indicate. Knowledge of the actual project operation capabilities is absolutely necessary to ensure an appropriate and safe operation. Without compromising the intent of Section 575, the effects of the completed non-Federal flood control works on the recommended plan should be examined to ensure that the recommended plan is efficient and to identify the project's actual operating characteristics. This can be accomplished with the following steps: (a) add the completed non-Federal flood control works to the recommended plan to form a total flood control "with project" condition; (b) perform a hydrologic/hydraulic analysis of the total project and assess the impacts; (c) define the total project outputs, including operating capabilities; and (d) reevaluate and adjust the design and operation of the recommended plan to reduce costs while still providing the same total project output. The total project outputs can be identified in terms of residual flood damages and/or other parameters. It may be possible to reduce project costs without affecting the total project outputs by downsizing the recommended plan, modifying a completed non-Federal flood control feature, or adjusting the manner in which features are incorporated into the recommended plan.

**IMPLEMENTATION GUIDANCE:** The following steps should be applied in the order presented to any current and future economic analyses of the Buffalo Bayou projects, including the Brays Bayou and Greens Bayou projects, and the Cypress Creek project specified in Section 575(b):


1. Exclude non-Federal flood control works, that meet the two following tests, from existing and future "without project" condition descriptions:

(a) Construction was completed after June 1950 within the Buffalo Bayou and Tributaries basin and after October 1983 within the Cypress Creek basin, and

(b) Construction was completed prior to the current or planned evaluation of benefits and costs.

These "without project" conditions will provide the baseline for the next step which includes the proposed Federal project alternatives.

2. Exclude the same completed non-Federal flood control works from the "with project" conditions for each alternative considered. Compare these "with project" conditions to the step 1 "without project" conditions to determine the incremental benefits, costs, and other impacts for each alternative. Recommend a plan, possibly the "no action" plan, for implementation based on these analyses.



3. Combine the completed non-Federal flood control works with the recommended Federal project to form a total project. Identify the total project output.

4. Reexamine and possibly modify the design and operation of the recommended Federal project to more efficiently achieve the total project output. The total project output should not be compromised without the sponsor's concurrence.